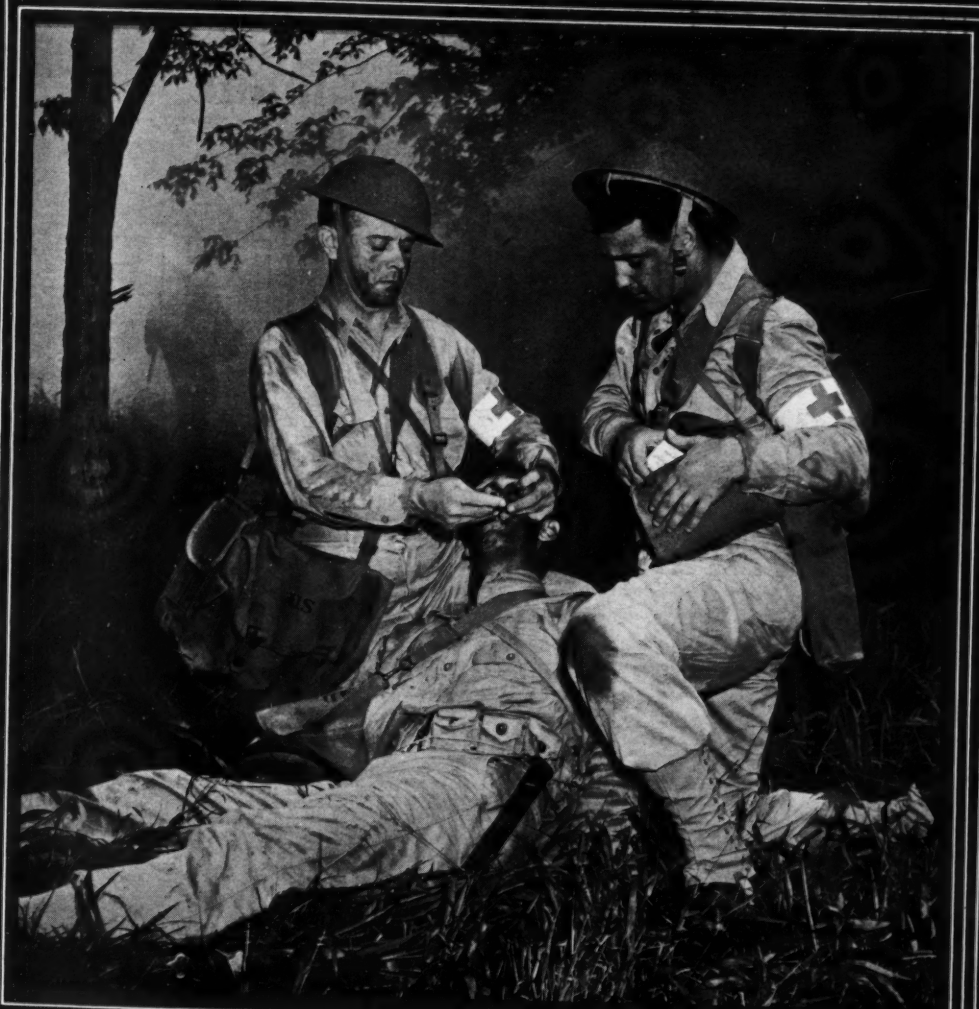
University of Michigan, 100
General Library, 12-42
Ann Arbor, Mich.
P

THE DENTAL



PATIENTS ARE ENTHUSIASTIC

when dentures are made with

VERI-CHROME

TRADE MARKS REG. U. S. PAT. OFF.

Five Phase *Anteriors*

NATURE'S CLOSEST RIVAL

The only artificial teeth that faithfully reproduce the form, varied labial surface markings, color and texture of natural teeth.

Use the Veri-Chrome Color Guide to specify

VERI-CHROME FIVE PHASE ANTERIORS

UNIVERSAL DENTAL COMPANY

Manufacturers of the Most Complete Line of Porcelain Teeth

48th and Brown Streets • • • • Philadelphia, Penna.

THE DENTAL Digest

VOL. 48 NO. 2

FEBRUARY, 1942

The Army Dental Corps In Action 66

The Recognition and Treatment of Adamantinoma, *Joseph E. Schaefer, M.D., D.D.S.,* and *Kenneth W. Penhale, M.D., D.D.S.* 70

Immediate Denture Service, *Irvin H. Ante, D.D.S.* 74

A Diagnostic Splint for Monson's Syndrome, *David H. Massie, D.D.S.* 78

Hydrocolloid Behavior: A Warning, *Bernard Jankelson, D.M.D.* 80

The Editor's Page . . . . 83 Contra-Angles . . . . 84 Dental Meeting Dates 95

EDWARD J. RYAN, B.S., D.D.S., *Editor*

ETHEL H. DAVIS, A.B., *Assistant Editor*

708 *Church Street, Evanston, Illinois*

About Our CONTRIBUTORS

JOSEPH E. SCHAEFER, D.D.S., M.D. (Chicago College of Dental Surgery, 1907, Rush Medical College, 1923) has been a frequent contributor to this magazine although not a very recent one. Doctor Schaefer specializes in oral surgery and exodontia.

KENNETH WILLIAM PENHALE, co-author with Doctor Schaefer of the article on adamantinoma in this issue, is likewise Doctor Schaefer's associate in practice. Doctor Penhale has his D.D.S. from Northwestern University Dental School and his M.D. from Loyola Medical School.

IRVIN HENRY ANTE, D.D.S. of Toronto, Canada, is a graduate of the Royal College of Dental Surgeons (1914) and is a member of the Faculty of Dentistry of the University of Toronto where he teaches prosthetics. In December of last year, Doctor Ante wrote for us about an IMPRESSION TECHNIQUE FOR THE EDENTULOUS MANDIBLE. In this issue he discusses the IMMEDIATE DENTURE SERVICE.

DAVID HILL MASSIE, D.D.S. (Medical College of Virginia, 1913) teaches graduate students dental diagnosis and oral surgery. Doctor Massie's article on Monson's syndrome in this issue is the result of independent investigation and research.

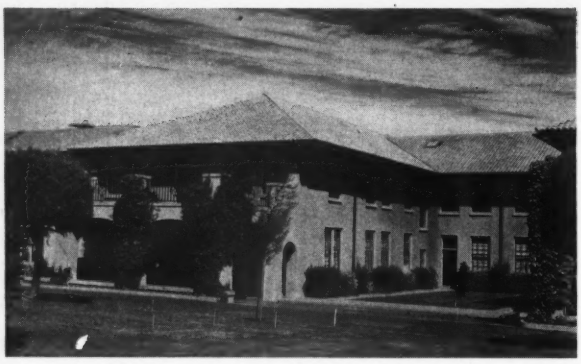
BERNARD JANKELSON, D.M.D. (North Pacific College of Oregon, 1924) is a general practitioner. Doctor Jankelson presents a critical discussion of the use of hydrocolloid impression materials.

Copyright, 1942, Dental Digest, Inc. See page 98 for Subscription Data, etc. The magazine is mailed on the fifteenth of the month of issue.

THE ARMY DENTAL CORPS IN ACTIO

Dental personnel, Letterman General Hospital. Col. A. P. Matthews, D. C., Chief of Dental Service.

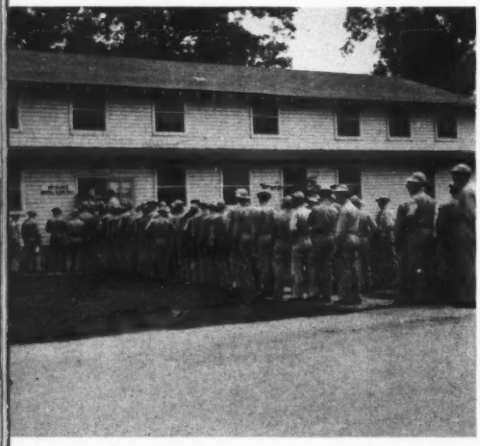
Photographs taken by the United States Army Signal Corps



Main Dental Clinic, Letterman General Hospital, Presidio, San Francisco.

Central Dental Clinic, Pine Camp, New York. Officers in car: front seat, [illegible] S. J. Rohde, Camp Dental Surgeon; rear seat, Lt. Col. G. B. Reddin, [illegible] Dental Surgeon.

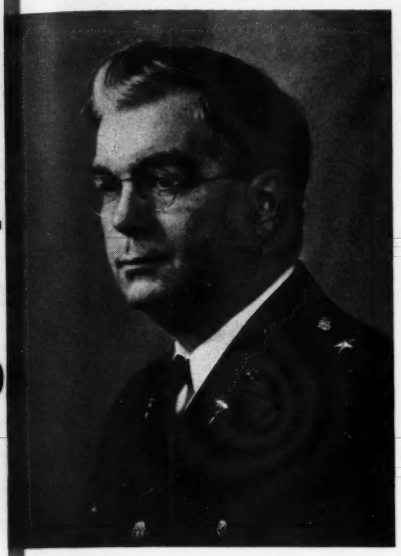
Dental Clinic, Camp Stewart, Georgia. Major James S. Cathroe in charge.



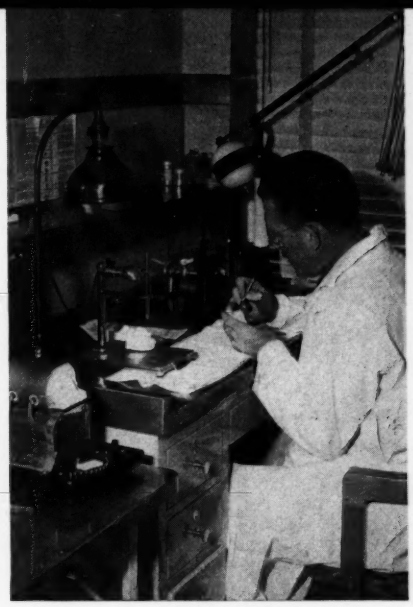
Dental Clinic, Number 1, Fort Eustis, Virginia. Camp Dental Surgeon, E. H. Nicklies, Lt. Col., D. C.

Interior of Dental Clinic, Fort Eustis, Virginia, showing general reception and waiting room.

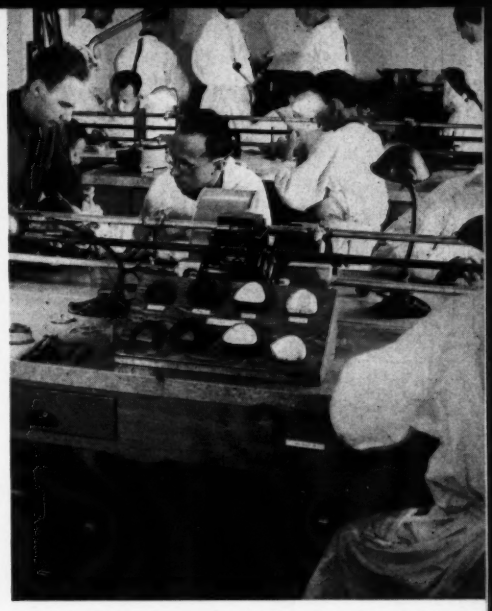
Post Dental Clinic, Number 2, showing recepti[on] waiting room, Fort Sam Houston, Texas. C[apt.] R. Benney, Lt. Col., D. C., Station Dental Su[rg.] John W. Duffy, Major, D. C. R., Chief Clinic[al]



dier General Leigh C. Fairbank, Chief of
l Corps, U. S. Army.

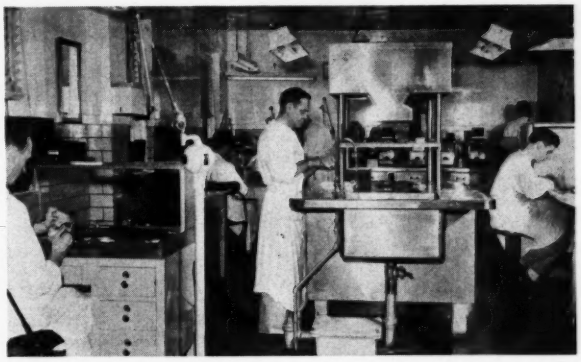


Designing Room, Prosthetic Section, Letterman General Hospital. Major E. E. Manning, D. C.

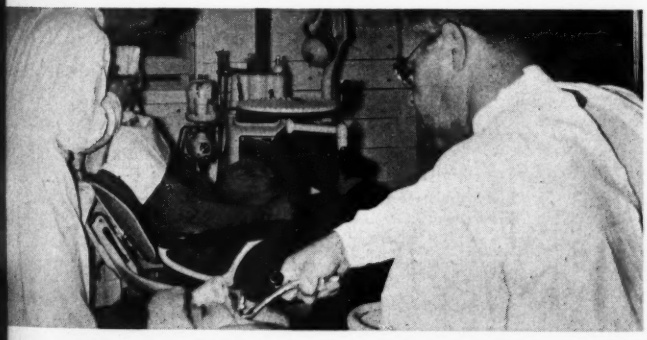


Technic Laboratory, Special Service School, Dental Section, Letterman General Hospital.

of main operating room, Pine Camp, New York. Left to right: First Lieuten-
. J. Baker, Frank Allen, Lester A. Lipsky, W. K. Reese.

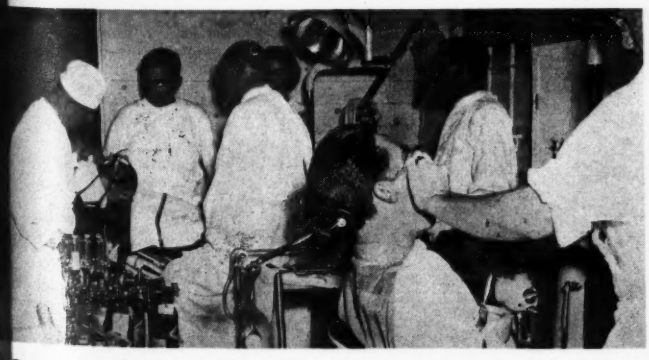


Enlisted personnel fabricating dental replacements, Seventh Corps Area, Central Dental Laboratory, Jefferson Barracks, Missouri. Captain D. S. Beiter, D. C., in charge.



Surgery Dental Clinic, Station Hospital, Camp Roberts, California. Captains
Foulk and C. G. Hawkinson.

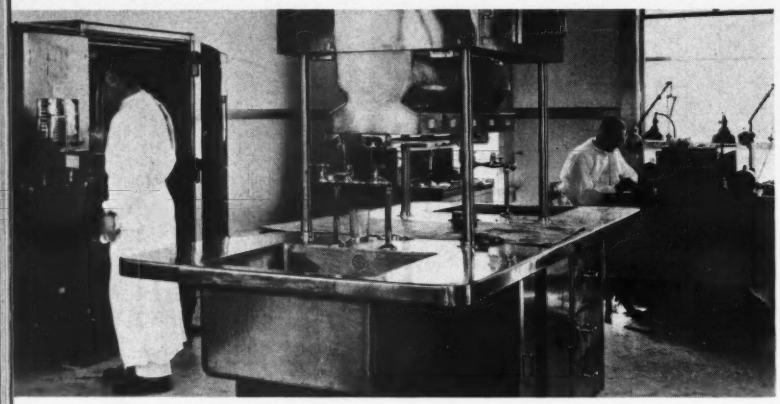
Post Dental Clinic Laboratory, Fort Sam Houston, Texas.



Surgery Section, Station Hospital, Camp Edwards, Massachusetts.

Technicians at work, Prosthetic Section, Letterman General Hospital.

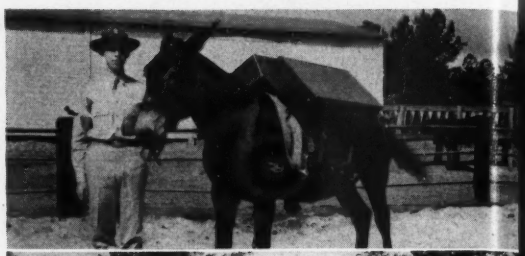
View of laboratory, Prosthetic Section, Letterman General Hospital.

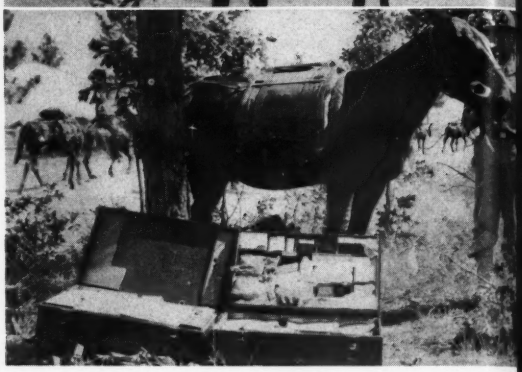


Another view of the same laboratory installation.

Unloading chest 60 in the field during maneuvers in the field. Matagorda Bay, Texas. Captain L. W. Caraway, D. C.

Setting up field dental equipment in the vicinity of Matagorda Bay, Texas.





Dental equipment packed on burro for use by Field Artillery. C contain engine and chair and supplies sufficient for four months Bragg, North Carolina.

Patient being prepared for dental treatment in the field. Fort B North Carolina.

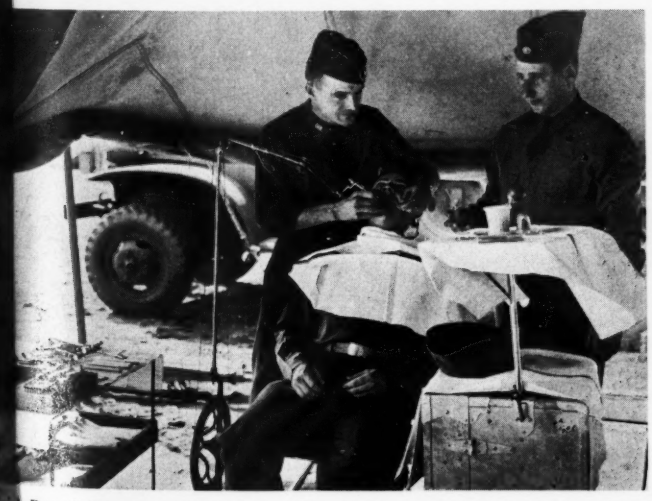
Emergency dental treatment by Captain Samuel P. Adams, For ning, Georgia.

Left—Motorized unit loading dental field equipment, Fort Washington. Major L. F. Snyder, D. C.

T ORPS . . . . IN ACTION

nding dental relief on the firing line. On maneuvers with the Third Army
ouisiana. Major H. L. Maness, D. C.

gency service on the front line with the Third Army on maneuvers.



Dental Dispensary, Pine Camp, New York. 1st Lt. W. R. Gromer, D. C.

Dental officer Lt. J. W. Hesse and assistant with field dental kits, Division Artillery, Ninth Division.

Another view of emergency dental service on the front line. Lt. L. W. Richardson, D. C. R., operating.

Emergency dental service on the front line. Beginning of an "enemy attack."

Despite the severity of "enemy action" the dental officer and his enlisted assistant continue to treat the soldier in their care. (The last two pictures and the cover were made with the Third Army on maneuvers near Matagorda Bay, Texas, in September, 1941.)

The Recognition and Treatment of Adamantinoma

JOSEPH E. SCHAEFER, M.D., D.D.S. and KENNETH W. PENHALE, M.D., D.D.S., Chicago

DIGEST

An adamantinoma, although a comparatively rare tumor of the jaw, has a definite interest to the dentist, as it may be discovered on routine roentgenologic examination of the teeth. The cystic type of tumor casts a characteristic bone shadow, so that anyone familiar with its bone pattern can make a diagnosis.

The diagnosis by roentgenologic observations should be verified by a biopsy.

The treatment calls for bone resection of the entire tumor mass.

Five illustrated cases are reported.

ACCORDING TO Thoma, "The adamantinoma is a central bone tumor which grows by infiltration of the marrow spaces. In rare cases the tumor will expand the bone and form a single compartment. Such cases simulate an odontogenic cyst, sometimes developing to enormous size, and are extremely difficult to diagnose."

The cystic type of tumor, of which I will present five cases, is described by Thoma as follows: "Usually the tumor forms multiple foci, each of which produces in the bone a special compartment giving the polycystic appearance of a multilocular cyst."

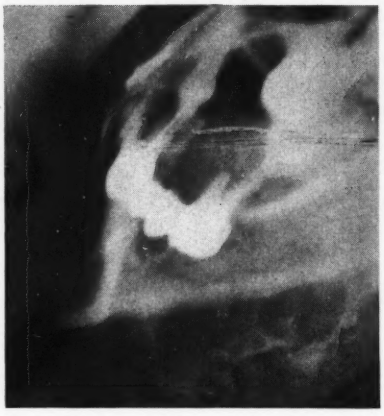


Fig. 1—Note multilocular markings so typical of adamantinoma.

Fig. 2—The gray object within the dark area is a seguestrum. The less dense area along the lower border of the mandible suggests a pathologic fracture.

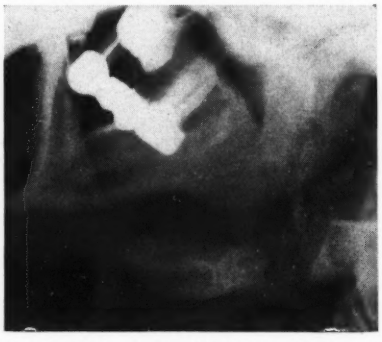


Fig. 3—Note repair of fracture as evidenced by callous formation.

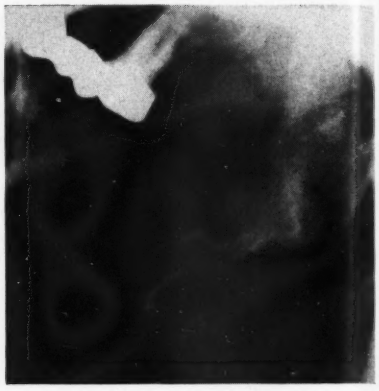


Fig. 4—Six years following local treatment with radium the tumor has recurred.

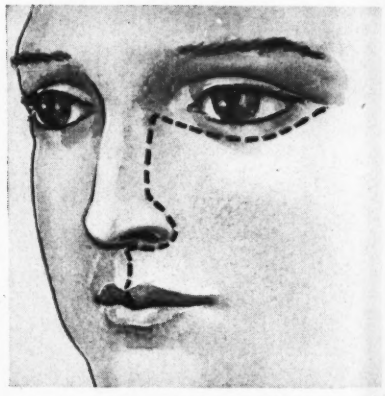


Fig. 5—Outline of incision for complete exenteration of maxilla.

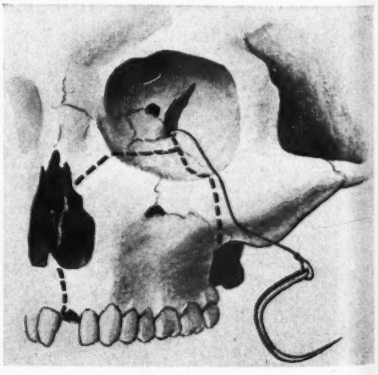


Fig. 6—Suture carried through infra-orbital fissure by means of which a gigli saw will be carried to place for cutting through malar process.

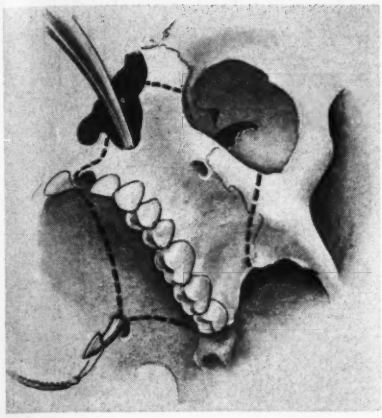


Fig. 7—Trocar passing above palatal process to carry gigli saw into position for cutting through this process.

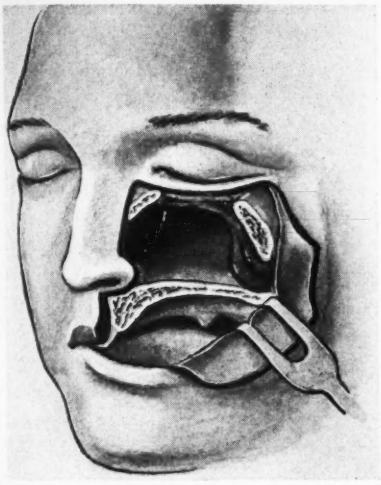


Fig. 8—Cavity left by completely exenterated maxilla.

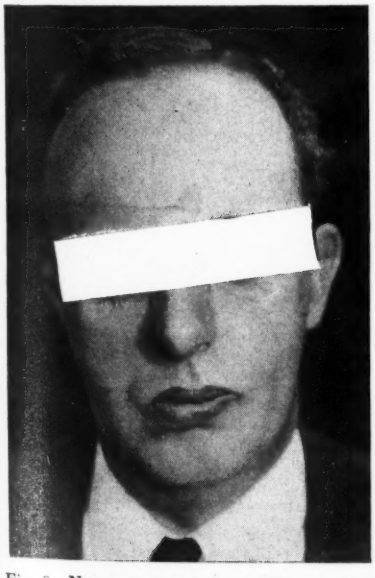


Fig. 9—Note comparatively small amount of deformity considering the loss of a maxilla.

Report of Cases

Case 1—A white woman, aged 42, presented with a swelling of the lower right jaw. This was first noticed by her dentist following the extraction of a lower molar. He told the patient that her jaw was diseased and referred her to us for treatment.

Examination and Diagnosis—The swelling of the lower jaw was the size of a small orange, hard, and with no evidence of an inflammatory reaction. Roentgenograms revealed the typical marking of a multilocular cyst (Fig. 1, taken March 19, 1935). Microscopic examination of a section of tissue confirmed the diagnosis of an adamantinoma.

Treatment—A limited excision of the tumor mass intra-orally, was followed by 1440 milligram hours of radium placed within the bony cavity of the excised tumor mass.

Postoperative Course—A roentgenogram taken August 5, 1935, about five months after the excision and radium application. reveals a sequestrum and a pathologic fracture at the site of the former tumor mass (Fig. 2).

Another roentgenogram taken eighteen months later reveals the repair of the pathologic fracture with, what appears to be, a callous formation, but with no evidence of a recurrence of the tumor (Fig. 3).

The patient was not seen again until September 22, 1941, almost six years following the local excision and radium application of the tumor mass. A roentgenogram taken at that time (Fig. 4) reveals a recurrence of the tumor with its typical multilocular cystic markings. The tumor mass is now about the size of an orange, but, as the patient experiences no discomfort and is in apparently good health, she refuses to have a radical excision of one half of the mandible.

Comment—One at least can make this deduction of the case: that limited surgical intervention with radiation is not effective treatment for the complete eradication of this type of bony tumor.

Case 2—The second case presented was that of an adamantinoma of the right maxilla. Thoma cites Le Court as reporting the ratio of the mandibular tumor to the maxillary as being four to one.

Treatment—The decision in this case was for a radical excision of the involved maxilla.

Fig. 10—Almost complete destruction of the ramus of mandible from a dentigerous cyst.

Fig. 11—Note regeneration of bone in a six month period, following permanent drainage of cyst.

Fig. 12—Note regeneration of mandible three years after drainage operation.

Fig. 13—Same case five years after drainage of a dentigerous cyst. A destructive bone process has set in. Note the multilocular character of bone shadow.

Fig. 14—Roentgenogram following resectioning of ramus of mandible for an adamantinoma.

Operation—1. An incision was made through the upper lip and extended upward along the side of the nose to the inner canthus, then extended outward along the lower orbital margin (Fig. 5).

2. The maxilla was exposed by means of a facial flap, as outlined by the incision, the facial nerve being preserved.

3. The fronto-nasal process was chiseled through; the malar process was cut through by a gigli saw as was the palatal process (Figs. 6 and 7).

4. The entire maxilla was exenterated by an outward and upward application of force by means of heavy forceps (Fig. 8).

5. The facial flap was then returned and sutured into its original position.

Postoperative Course and Corrective Procedures— A photograph taken six months later shows little deformity considering the extensive character of the operative procedure (Fig. 9). The depression below the eye, owing to the loss of the infra-orbital margin of the maxilla, can be restored by a rib transplant. An obturator closed the palatal defect.

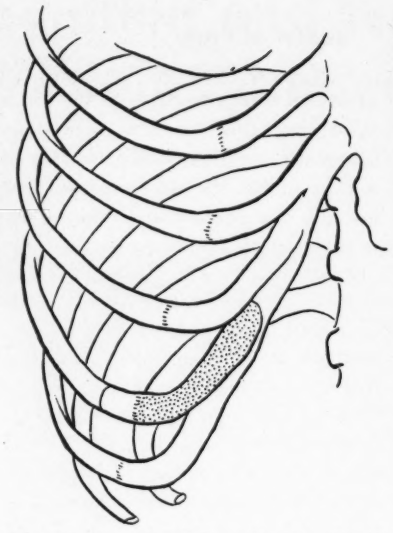


Fig. 15—Osteochondral graft selected with angulation so as to restore angle of mandible.

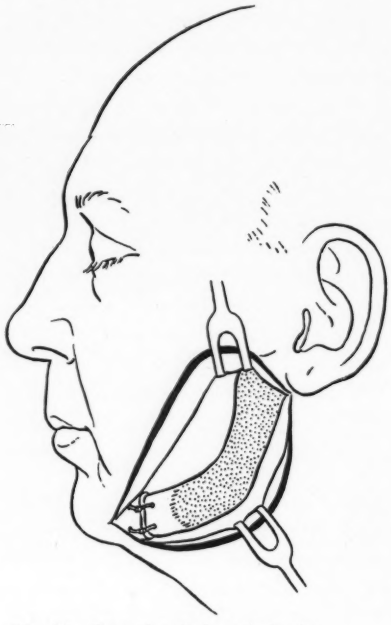


Fig. 16—Osteochondral graft in situ.

Case 3—*History*—A white man, aged 28, presented with a dentigerous cyst arising from an unerupted third molar.

Examination—The cyst extended into the ramus of the jaw causing pressure resorption of the entire ramus, except for the head of the condyle and a small portion of the posterior border (Fig. 10).

Operation—The unerupted third molar was removed and a large vent was cut into the cyst sac. This opening

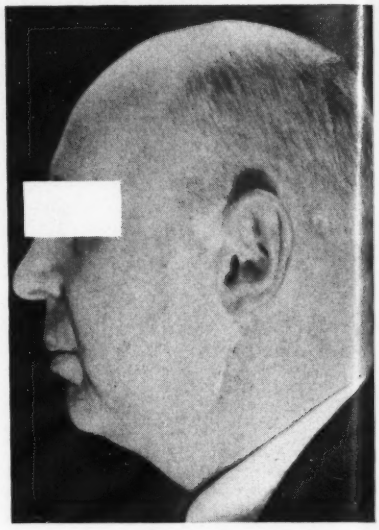


Fig. 17—Result of osteochondral graft.

Fig. 18—Loss of both hard and soft tissues following radiation treatment for an adamantinoma.

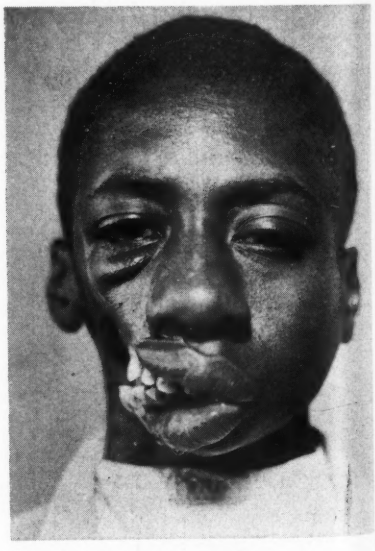


Fig. 19—Same case front view.

Fig. 20—Two pedicle flaps used to restore cheek. A chest was used as a lining flap with skin surface toward the mouth cavity.

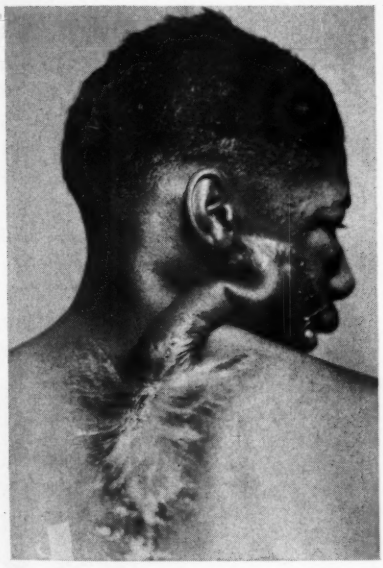


Fig. 21—Pedicle flap taken from back and used as a covering flap over the neck flap which was used as a lining flap.

was kept patent first by a gauze pack and later by an obturator.

Postoperative Course—Six months later there appeared to be an almost complete laying down of bone throughout the cyst cavity (Fig. 11).

Subsequent Pathologic Condition—Three years later the patient returned with a mass of tissue growing out of the opening that was originally made in the cyst cavity. This was diagnosed microscopically as being hyperplastic epithelium.

Treatment—The mass was destroyed by electrical coagulation. A roentgenogram taken at this time, March 6, 1939 (Fig. 12) revealed a rather solid looking ramus.

Further Destructive Process—The patient did not return again until January 27, 1941, five years after the original operation on the dentigerous cyst. A roentgenogram taken at this time (Fig. 13) revealed a destructive process taking place in the ramus which previously had appeared to be healed. The destructive process took on the pattern of a multilocular cyst, which was confirmed by a biopsy.

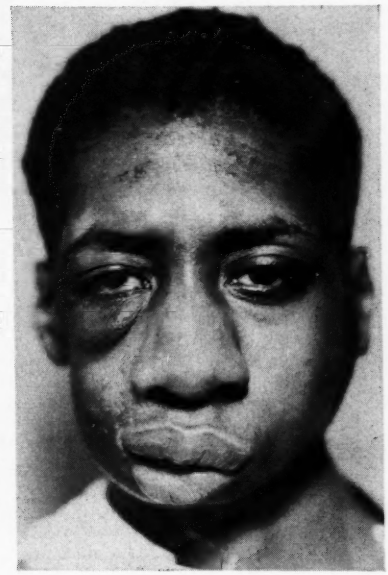


Fig. 22—Reconstruction of face after severence of pedicle flaps. The angle of the mouth remains to be reconstructed.

Resection—The decision was made to resect the entire ramus of the mandible. Interdental splints were applied to both jaws to maintain jaw relationship after the resection. The entire ramus, distal to the second molar, was removed (Fig. 14).

Grafting—Six months later a rib cartilage with a portion of the osteosection of the rib was transplanted to replace the lost ramus (Figs. 15 and 16).

Result—As a result of the transplant the patient has good use of his lower jaw, with no drifting to the defective side and a satisfactory cosmetic result (Fig. 17).

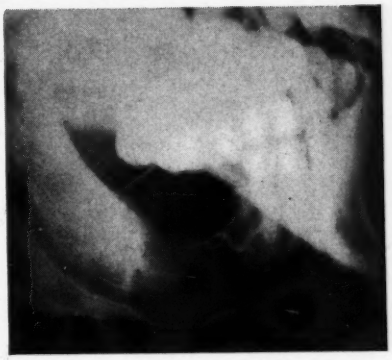


Fig. 23—Note again the multilocular character of the bone shadow as cast by an adamantinoma.

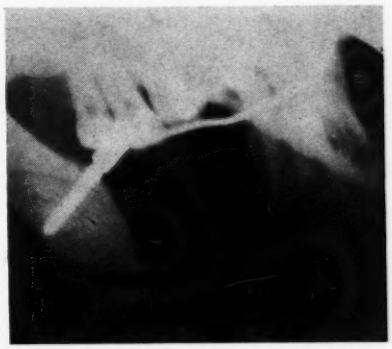


Fig. 24—Use of the Berry fracture appliance to control position of severed fragments; also complete excision of the tumor.

Case 4—*History* — A colored boy, aged 14, had been treated by deep roentgen therapy for an adamantinoma of the mandible. Following the radiation there occurred the loss of one half of the mandible with overlying soft tissues (Figs. 18 and 19).

Plastic Reconstruction — The case was referred for a plastic reconstruction. Two pedicle flaps were developed —one from the chest and one from the back. The chest flap was used as a lining flap and the back flap as a covering flap (Figs. 20 and 21). After these flaps had developed a sufficient blood supply in their new positions the original pedicles were cut and returned to the sites from which they were taken (Fig. 22).

Case 5—A white man, aged 21, was referred to us for treatment of a multilocular cyst (Fig. 23). The roentgenogram showed a definite multilocular

(*Continued on page 77*)

Immediate Denture Service

IRVIN H. ANTE, D.D.S., Toronto

DIGEST

The immediate denture service is presented from the point of view of an established rather than a provisional technique.

The procedure of extraction and surgery is briefly outlined.

The step-by-step construction of the immediate denture is pictorially described.

IMMEDIATE DENTURE construction has developed from a type of transitional or provisional denture service to a definite technique and is considered routine in many offices of the general practitioner. The technique can be mastered with satisfactory results to both the operator and the patient, although it calls for a great deal of study and technical skill. The studies cover a field of special ties requiring a knowledge of surgery, physics, esthetics and psychology. The patient and the dentist are equally responsible for a successful result. The operator should insist on full cooperation by the patient with a determination to wear the denture and adjust himself to the new dental restoration.

Extraction Procedure

1. The posterior teeth are first removed, that is, all teeth from the cuspid distally, on each side.

2. The alveolar process should be trimmed, bony projections removed, and undercuts reduced.

3. Excess soft tissue is removed and the flaps are sutured if necessary.

4. If the health of the patient is to be adequately safeguarded, thorough removal of infected areas and necrotic substances is essential.

5. The patient is brought back periodically for postoperative treatment. From two to three weeks should be allowed for healing and absorption.

6. The anterior six teeth are extracted, and the free gum margin process is removed without the surgical removal of very much, if any, of the underlying bone.

7. The infected areas are removed.

8. The mucosa is trimmed and sutured.

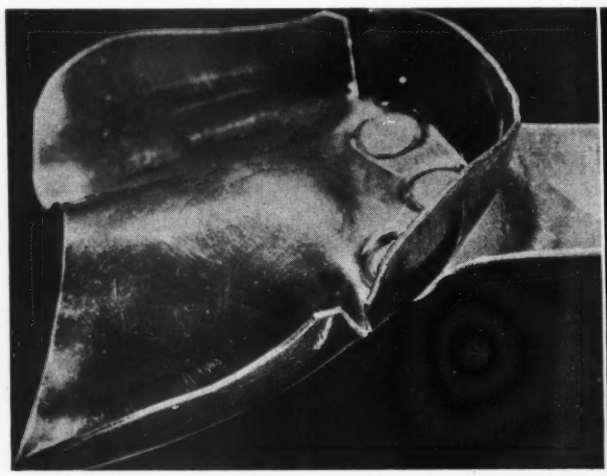
9. The denture is lined with a thin film of surgical dressing and pressed firmly to the maxilla upward and backward. The denture should go completely to place and make firm contact with the tissues in the postdam area. It should not compress or displace the resilient tissue covering the distal buccal surface of the tuberosities resulting from insufficient trimming of the labial process.

(The step-by-step construction of the immediate denture is shown in the accompanying illustrations.)

10. Instruct the patient on no account to remove the denture until the return to the office the following day. He is to relax, go on a light diet, and use a cold compress or ice bag over the area of operation. Instruct him not to masticate on his new denture for at least the first week and advise him to be satisfied if he can become accustomed to it by that time without discomfort.

Follow up the case for a few days for check up of balanced occlusion, and for postoperative treatment, and make sure the patient is comfortable.

Few patients like the appearance of



Technique:

Fig. 1—Select an upper tray, such as crescent numbers 1, 2, 3, 4 or 5, which is slightly larger than the case. Cut the buccal flange of the tray to a depth of about half an inch in the first bicuspid area.

Fig. 2—The handle of the tray is cut off to half an inch in length and the labial portion is bent down to accommodate the anterior teeth.

Fig. 3—The tray is bent to approximate the postdam area and to accommodate the ridges and the anterior teeth. Trim the buccal borders of the tray to the tissue flexion line; in the postdam area trim it anterior to the posterior palatine formen or to the tissue flexion line when the patient says "ah."

Fig. 4—Fill the tray with any low-softening compound. Press to the maxilla, and instruct the patient first to open widely then attempt to whistle, suck, and swallow to secure a muscle-molded impression of the buccal and postdam borders.

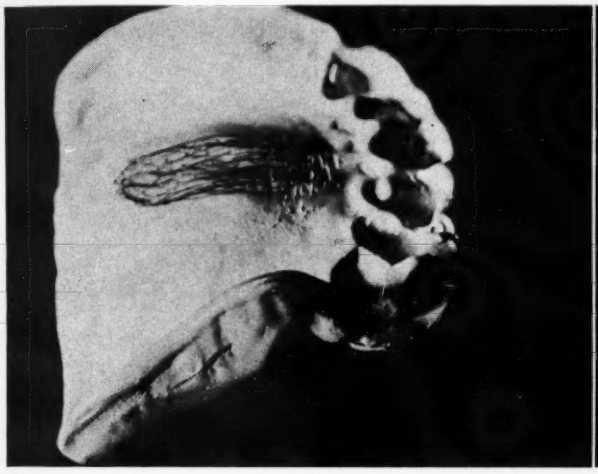


Fig. 5—Trim the excess compound. Relieve over the hard areas by scraping the compound. Heat the area and press firmly to the maxilla.

Fig. 6—Fit a piece of aluminum plate to the labial surface by bending and trimming. Apply the softened compound and take a muscle-molded impression of the labial surface. Instruct the patient first to open widely then to draw the upper lip down and attempt to whistle. Use vaseline or cocobutter as a separator between the two surfaces of compound.

Fig. 7—The labial and buccal peripheral borders are painted both inside and out to a width of about 5 mm. and to a depth of 2 mm. with Jelenko's adaptol or Kerr's impression wax or any other material that is moldable at mouth temperature. Apply the same material to the postdam area to a width of about 10 mm. Soften in warm water and press to the maxilla. Apply the labial portion and instruct the patient to exert all exaggerated muscle-molding motions. Chill and remove.

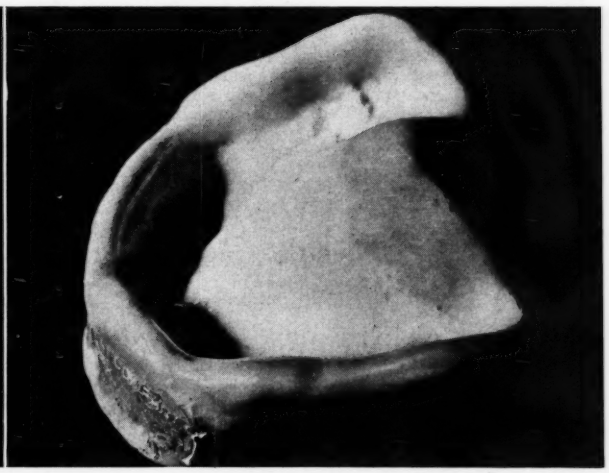


Fig. 8—A muscle-molded maxillary impression, with adhesion and peripheral seal will help to eliminate the early necessity of relining the denture.

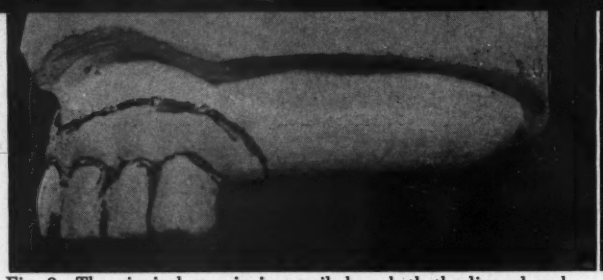


Fig. 9—The gingival margin is penciled on both the lingual and labial surfaces of the teeth. A pencil line is drawn on the cast half way between the gingival margin and the periphery. A pencil line is also drawn distal to the cuspids for a distance of 5 mm.

Fig. 10—Adapt a base plate to the cast and build up the wax bite block to register centric relation in the mouth.

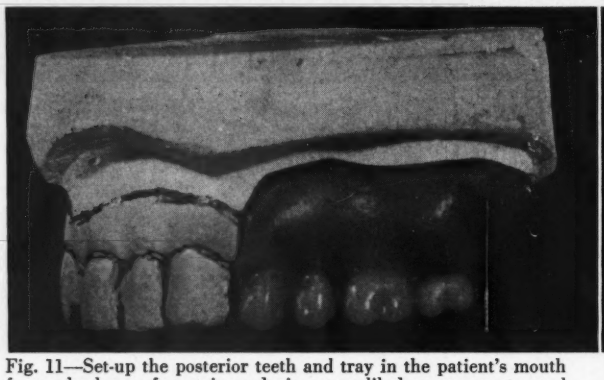


Fig. 11—Set-up the posterior teeth and tray in the patient's mouth for a check-up of centric occlusion, mandibular movements, and correct vertical dimension.

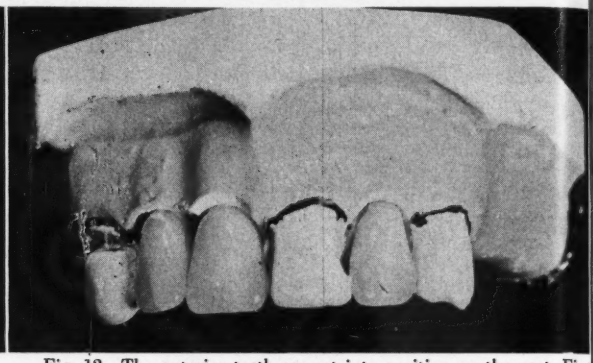


Fig. 12—The anterior teeth are set into position on the cast. First remove one central and both laterals. The remaining central will serve to guide the operator in maintaining or establishing the correct anterior and posterior relation, median line and length.

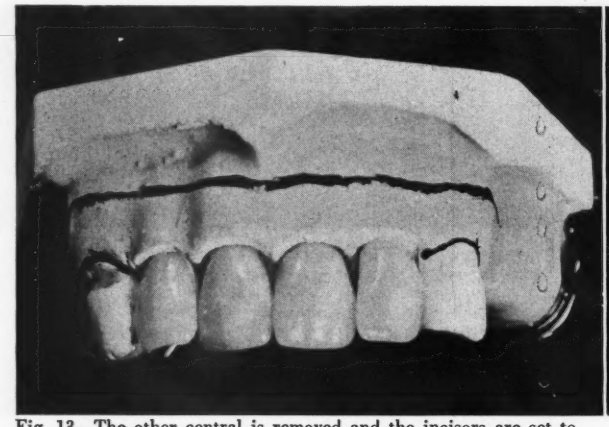


Fig. 13—The other central is removed and the incisors are set to a pleasing arrangement. The cuspids will serve to maintain the correct horizontal position. The teeth are ground, stained, or filled to a pleasing appearance.

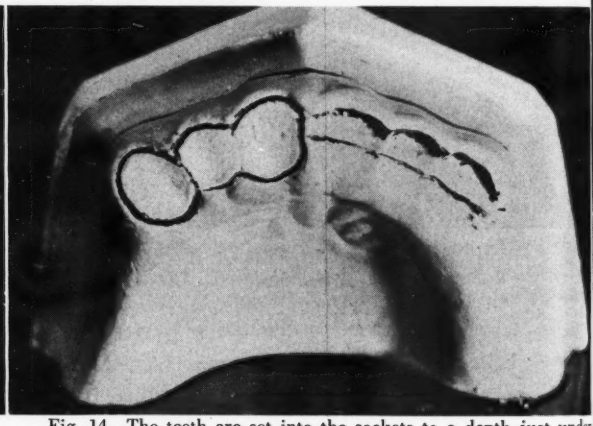


Fig. 14—The teeth are set into the sockets to a depth just under the free margin of the gums and tapering distally to the center of the socket. The depth of the free gum tissue is tested on each tooth as the operator proceeds to remove them from the cast. When only the anterior teeth are to be replaced follow the same procedure.

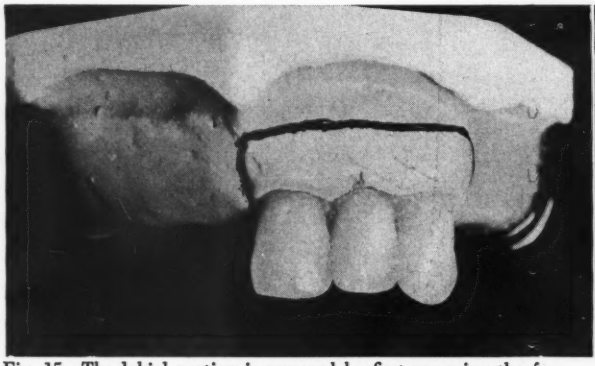


Fig. 15—The labial portion is removed by first removing the free gum margin and the labio-gingival tissue not to exceed about 2 mm. in depth and extending midway between the gingivae and periphery.

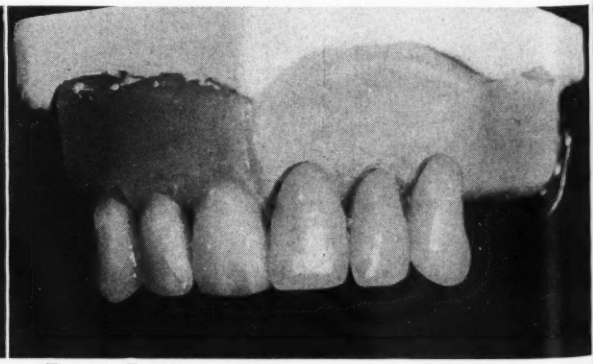


Fig. 16—Exercise care so as not to remove an excessive amount from the cast. Remove only the portion corresponding to the unsupported free gum margin which will collapse when the teeth are removed without surgical removal of very much, if any, bone.

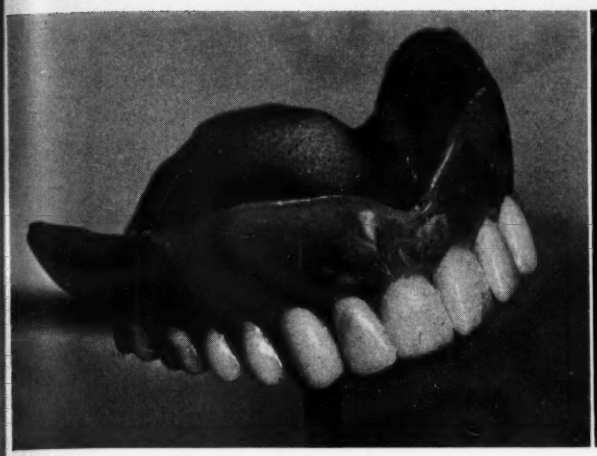


Fig. 17—All the teeth are set-up, ground, shaped, stained, or filled to duplicate the corresponding natural teeth as accurately as is desirable. Make any necessary changes for a pleasing effect. Wax carefully. Restore the muscle-molded peripheral border.

Fig. 18—Cover the cast with tin foil and adapt one sheet of baseplate wax over the tin foil. Remove from the cast, flask it, and reproduce in clear acrylic resin.

an immediate inserted denture even if it is an exact reproduction of the natural teeth. To the patient it is as "false" as artificial eyes, hair, or limbs and the layman has a horror and disgust of wearing anything artificial. He always hoped that he would die before losing his teeth. The operator should be tactful, make favorable comparisons, be sincere and sympathetic. The patient is sick, he has had an operation. His self-regard has been deflated. It rests with the operator to raise him mentally. Help him to be healthy, happy and comfortable.

918 *Medical Arts Building.*

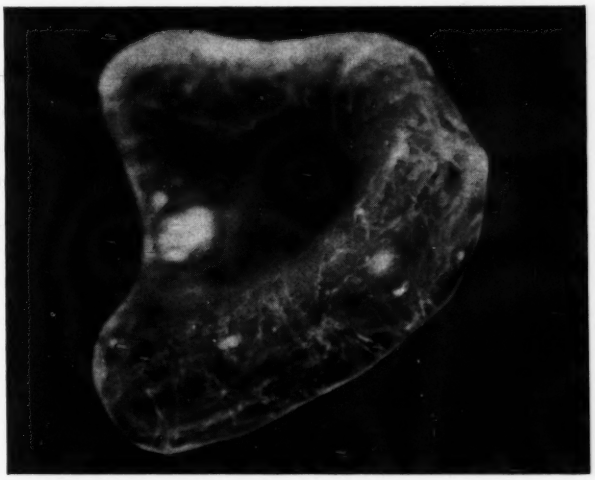


Fig. 19—The clear acrylic resin base plate can be used to try in the mouth when surgery is in progress. When extreme changes are necessary in the position of the teeth it is often desirable to try in the set-up before processing and finishing. This clear acrylic base can be worn by the patient between the time of extraction and insertion of the finished dentures.

The Recognition and Treatment of Adamantinoma

(*Continued from page* 73)

cystic pattern. A biopsy was done and confirmed the diagnosis of adamantinoma.

Resection—The decision was for a resection of the bone involved, from the first bicuspid to the third molar. Prior to the surgical removal of the section of the mandible a Berry fracture appliance with screw was applied to the mandible to prevent any collapse of the fragments (Fig. 24).

Six months later an osteoperiosteal graft was to be inserted.

Comment

Sufficient time has not elapsed in the two cases in which radical excision of the bone was done to make any statement about recurrence. It would seem, however, that the treatment of adamantinoma is that of carcinoma—early recognition and fairly wide excision of the involved bone. It is possible that electrical coagulation of the smaller tumors, if they are completely destroyed, might be an alternative to resection.

55 *East Washington Street.*

A Diagnostic Splint for Monson's Syndrome*

DAVID H. MASSIE, D.D.S., University, Virginia

DIGEST

This presentation is confined to an "at the chair" discussion of a splint that can be worn by the patient long enough to prove the symptoms to be or not to be due to a shortening of the vertical dimension.

The construction of this diagnostic splint is outlined, and the observations necessary to establish the diagnosis are indicated.

INASMUCH AS ALL the theoretical points of Monson's syndrome have been covered since the period between Doctor Monson's article in 1918 to Doctor Kallenbach's in the February, March, April and May, 1941 issues of this magazine, I feel that it would be a useless repetition to attempt to reamplify the theories, causes, and results of a vertical dimensional anomaly. This presentation, therefore, is confined to an "at the chair" discussion of a splint that can be worn by the patient long enough to prove the symptoms to be or not to be due to a shortening of the vertical dimension.

Since Doctor Monson called my attention to this syndrome in 1917, I have tried all conceivable means of diagnosis. Of all these, I have found the roentgenogram to be of least value. I have tried gold, vulcanite, and other splints, but I find that the result from an inexpensive splint, made of shellac base plates is the most satisfactory, because: (1) the out-of-town patient can have the splint made and placed in position at one sitting; (2) the splint can be constructed so inexpensively that the low-income group can at least have a diagnosis. It is interesting to note that a majority of these syndromes come from that group, and our sense of fairness would indicate a diagnosis first and a fee later. There is no patient so loyal as one relieved, even temporarily, of the effects of this syndrome.

Construction of Splint

1. Take an impression of the upper and lower arches, using impression materials of choice, but making sure that the occlusal planes are not distorted.

2. Pour the models and occlude them in their actual position on a plane-line articulator.

3. Determine the proper relationship from a vertical standpoint. This requires some experience. There are many methods of attaining this relationship. The simplest, most effective method which I have found is as follows: a) Have the patient sit upright or stand, and completely relax the muscles of the face.

b) Have him speak a word such as "carrots" which will automatically leave his mouth in the exact position of rest.

c) With a previously prepared wedge at hand, instruct the patient to repeat the word "carrots" until you have his cooperation.

d) While his jaws are relaxed, choose a key position on the remaining teeth and insert the wedge there, making both sides of the wedge touch the opposing teeth.

e) Pencil the wedge on the buccal or labial surface of the teeth (Fig. 1). This is to serve as the vertical registration.

4. Open the articulator to the point where the key teeth of the model barely come in contact with the wedge at the pencil mark as in the natural denture (Fig. 2). This will open the bite on the models to approximately the correct position.

5. On the lower model, make an over-

Fig. 1—Lips separated while jaws are held in relaxed position. Measuring wedge inserted. Amount of separation and teeth from which measurement is made are noted.

*From the Dental Service, University of Virginia Hospital, University, Virginia.

Fig. 2—Articulated model is locked after same degree of opening is ascertained. Same angle and same teeth are used as shown in Fig. 1.

Fig. 3—Articulated model with bite block in position.

lay of strips of heated shellac base plate. Make this built-up splint high enough to occlude with the opposing teeth (Fig. 3), and make no attempt at tooth anatomy. Simply press the base plate against the teeth on the opposing model. Be sure to use a hot spatula on the layers to make a smooth union. Grind off with a coarse vulcanite stone all sharp points.

Sometimes it is advisable to coat the contacting and exposed surfaces with wax because many of these patients become neurotic and are so easily upset that they fail to register or note the results of the test.

Diagnostic Observations

When the splint is completed, place it in the mouth and instruct the patient to wear it from two to four days, paying no attention to a temporary soreness in the temporomandibular joint, or even in the muscles of mastication. Ask him to note, instead, any changes in tinnitus; relief of pain in the temporal or mastoid region; or the sense of opening of the ears. In a true case, these symptoms disappear in two or three days. After three or four days have the patient return and take the splint away from him for several days more. Then inquire on his return concerning the symptoms.

Relief of deafness, when it is relieved, is slow but relief of the other symptoms is rapid, and when deafness is accompanied by other symptoms, the relief of the other symptoms usually precedes a partial or full recovery from deafness.

Comments

Patients wearing full dentures may be treated in the same way by the beginner. The more experienced operator may use the lower denture instead of a splint by building it up as if rebasing it with modeling compound.

Let me caution the inexperienced in this treatment not to be fooled by a full complement of teeth. The occlusal surfaces may be worn, but occasionally a young patient will be seen whose teeth failed to erupt to a normal length. This is a case for an orthodontist. I suggest that the operator be governed by symptoms rather than the picture presented by examination of the mouth.

Hydrocolloid Behavior: A Warning

BERNARD JANKELSON, D.M.D., Seattle

ALL HYDROCOLLOID materials are boiled to bring them to a uniform liquid state, then slowly cooled to approximately 125° F., at which temperature it is of a consistency well adapted to impression use. The material is used at this temperature and then chilled in the mouth to the "solid" or gelled state. According to Paffenbarger,[2] if the material is used at 122° F. and chilled to 77° F. the shrinkage amounts to 0.9 per cent. If used at a higher temperature, 177° F. and chilled to 77° F. the shrinkage was 2.2 per cent. The significant statement however, is that which follows, and I quote: "This does not mean of course that the impression will be 2.2 per cent small in one case and 0.9 per cent in the other instance, because the shrinkage is largely localized in the shrinkage pipe: which if properly located should not seriously affect the size of the impression." The expression, "shrinkage is largely localized in the shrinkage pipe," should be carefully noted.

It was my experience in constructing many hundreds of inlays from hydrocolloid that the fit of inlay after inlay was apparently accurate when tried in the cavity. The inlays went to place nicely and only on careful clinical and roentgenographic examination of the gingival margin was there disappointment. It is important to note that the apparent discrepancy existed only at the gingival, and that discrepancy here was consistent. In order to be certain that this discrepancy was not due to lack of adaptation of the wax pattern to the gingival part of the model before casting, or to shrinkage during casting, the finished inlays were placed on the models and examined both visually and roentgenographically. They did not show the discrepancy on the models that they did on the tooth. This narrowed the point of error down to either the impression or the model. Some impressions were run in stone immediately; some were immersed in a solution of potassium sulphate and then run; and others were run and then immersed in potassium sulphate solution while the stone set. None of these expedients corrected the fault; thus is was the impression that appeared to require correction, and the question was, "Why does the impression apparently show its lack of adaptation always at the gingival margin, and why does this occur in the mouth but not when working with models?" The answer, when the question was thus posed, became apparent.

[1]Goodman, J. B.: The Use of Hydrocolloid Impressions for Indirect Inlays, DENTAL DIGEST, 47:212 (May) 1941. Sears, A. W.: Hydrocolloid Impression Technique for Inlays and Fixed Bridges, ibid. 43:230 (May) 1937.
[2]Paffenbarger, G. C.: Hydrocolloidal Impression Materials: Physical Properties and a Specification, J. A. D. A. 27:384 (March) 1940.

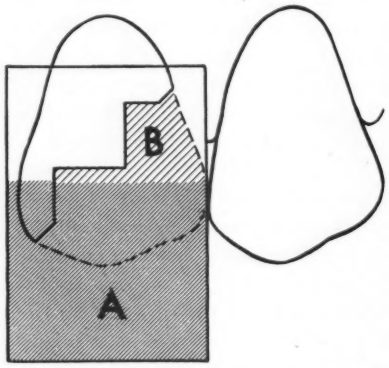


Fig. 1—Hydrocolloid during first stages of chilling.

DIGEST

For several years articles[1] have been appearing in dental journals with increasing frequency regarding the use of hydrocolloid materials to secure impressions of teeth for inlay construction. The ease of technique and the accuracy of the finished inlays are stressed. It is not a pleasant task to question the results of so many earnest searchers for advancement and improvement of our present technique; however, after an exhaustive inquiry into the use of hydrocolloid for inlay impressions and the construction of several hundreds of inlays from such impressions, I must have serious doubts as to the suitability of hydrocolloids for this purpose.

Hydrocolloid is a valuable material when used with a full understanding of its clinical behavior. Unfortunately the behavior of hydrocolloid in vitro (on models) is such as to cause great enthusiasm in the research worker. In vivo (clinically) the results are not so favorable to the careful worker. The purpose of this article is to offer an explanation of this variant behavior.

Action of Hydrocolloid

Hydrocolloid gels as the temperature

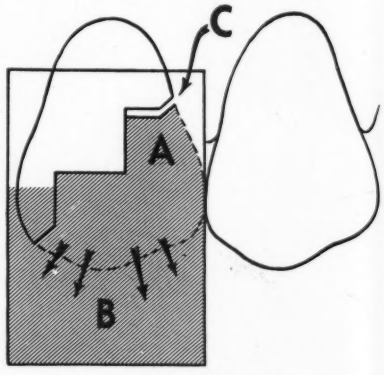


Fig. 2—Hydrocolloid fully chilled prior to removal from tooth.

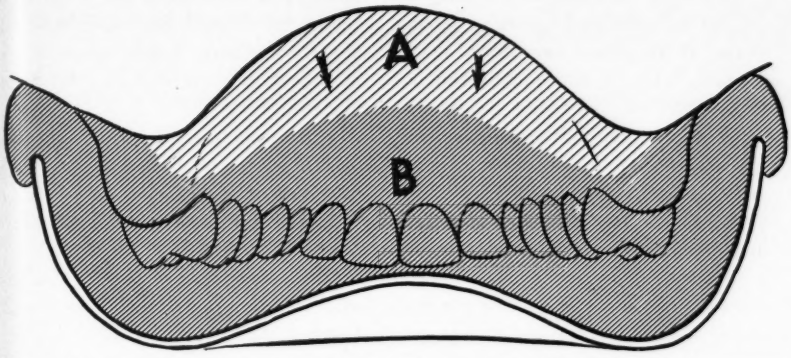


Fig. 3—Cross section of a posterior view of a partly gelled hydrocolloid maxillary impression.

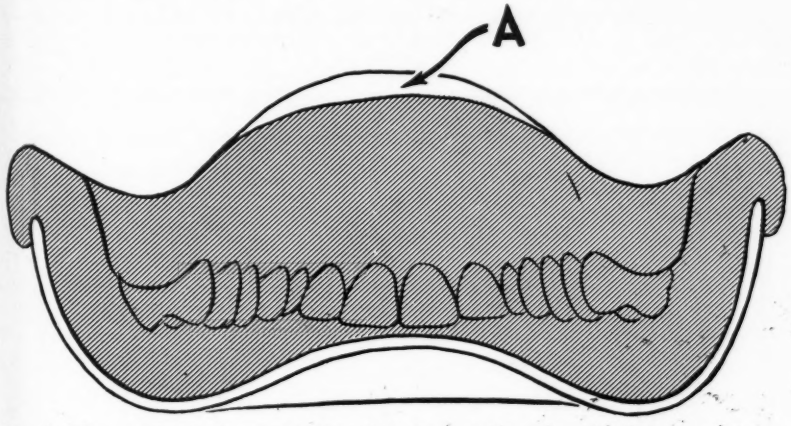


Fig. 4—The same impression completely gelled and ready for removal from the jaw.

is lowered. The portion that is cooled first hardens first and is well adapted to the surface against which it hardens. Shrinkage continues as cooling progresses, and this shrinkage is concentrated in the material that is liquid the longest, this part contracting toward the material already cooled.

Hydrocolloid Impression of Inlay Cavity

Consider the taking of a hydrocolloid impression of an inlay cavity. The hydrocolloid is contained in either a band or tray, pressed, painted or injected to place. Regardless of the method used to place it and eliminate bubbles, let it be assumed that the material is in contact with, and well adapted to, walls and all cavity margins, and surrounds the tooth. Its temperature is about 122° F. Then cooling begins, either by air or water. The material cools from the outside first. It remains liquid the longest at the point farthest from and most protected from, the outside, which is in the cavity at the gingival. Naturally, shrinkage is concentrated at this point as the liquid colloid is drawn away from the gingival toward the previously solidified mass on the outside and it is a great deal more than 0.9 per cent at this point (Figs. 1 and 2).

Necessity for Changing Cooling Procedure

The reason colloid has been so deceiving is that when used experimentally on models which are at room temperature, the colloid gels against the cold model and shrinkage occurs where the colloid is still liquid. If the teeth and tissues could be chilled and kept so in the mouth, results would then approach those on models. Unfortunately, mouth and teeth are 98.6° F. and chilling is done from the outside: an accurate impression is taken of the tray and the shrinkage is concentrated at the point of longest liquidity, which is against the tissue.

Unless radical changes in the cooling procedure are devised, so that cooling occurs first next to the cavity while the tray is kept warm, it is difficult to accept the suitability of hydrocolloid as a material for obtaining accurate impressions for inlay construction.

Other Deterrent Factors

There are a number of other factors besides shrinkage from cooling which prevent hydrocolloid from being quite so simple a material to use for a purpose in which dimensional limits must be so precise as in inlay construction. Some of these are (1) volume change from change in water content, as a result of exposure to air or immersion in water,[3] or loss of water to stone model; (2) distortion due to pressure, and (3) lack of ability to displace any film of moisture present. These are not insuperable deterrents, however, and I have dwelt only on the matter of shrinkage due to temperature change.

Suitable Uses for Hydrocolloids

Hydrocolloid should not be condemned and discarded for all purposes, but should be used with a full under-

[3]Kern, W. R.: A Study of Certain Properties of Colloidal Impression Material, Northwestern University Bul. Dental Research & Graduate Study, 38:8 (November) 1937.

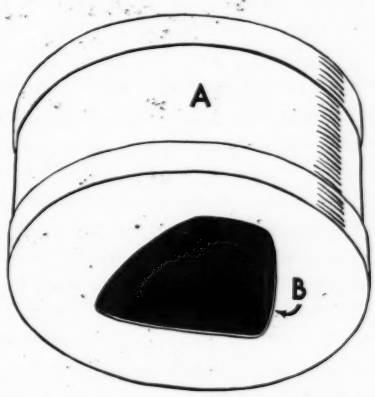


Fig. 5—Bottom view of a duplicating flask.

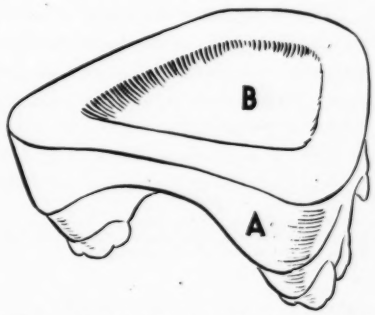


Fig. 6—Posterior view of a lower model with the base recessed.

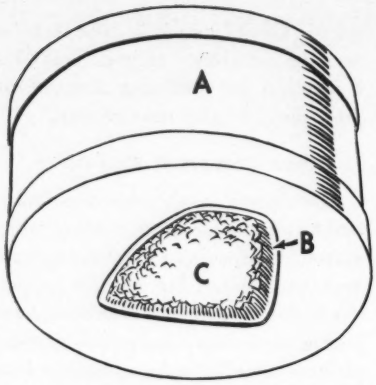


Fig. 7—Bottom view of a flask with recessed model assembled to the bottom and cracked ice packed into recess of model.

standing of its behavior. Several procedures in harmony with hydrocolloid behavior are suggested and follow:

Impressions for Models for Removable Partial Dentures — Hydrocolloid is an extremely valuable material for impressions for models on which to construct removable partial clasp dentures, provided its limitations are kept in mind. Trays should conform as closely as possible to the areas to be copied, so that the colloid is of uniform thickness. Shrinkage, it should be borne in mind, will be greatest at the bulkiest point. Many a palatal bar stands away from the palate because the tray was flat or the vault deep and the material contracted (Figs. 3 and 4) away from the palate toward the cooled tray. This discrepancy has been largely attributed to slumping of the material, and heavier consistency of the material has been advocated to prevent "slumping." This is a step in the right direction, because the heavier material is nearer its gel point and shrinkage is thus reduced. Obtaining uniform thickness of colloid is not easily accomplished over the soft tissues.

Droegkamp[4] has suggested a combination compound and elastic material impression technique for partial dentures. This technique, in short, consists of an impression in compound which is then cut out around the teeth and the colloid is placed in the cut out area. This technique is fundamentally sound and insures an accurate impression of deep areas. It is rather laborious as described, however, and equally satisfactory results may be easily obtained by using the regular hydrocolloid tray, placing warm compound over the vault and ridge areas, placing hydrocolloid in the areas over the teeth, then taking the impression in one operation. An impression obtained in this manner eliminates shrinkage of colloid in warm deep areas, such as palate and ridges, and accuracy over the teeth is ample for the purpose of clasp or frame construction where tolerances are far in excess of the microscopic accuracy necessary for successful inlay construction.

[4]Droegkamp, G. H.: A Combination Compound and Elastic Material Impression Technique for Partial Dentures, DENTAL DIGEST, 38:290 (August) 1932.

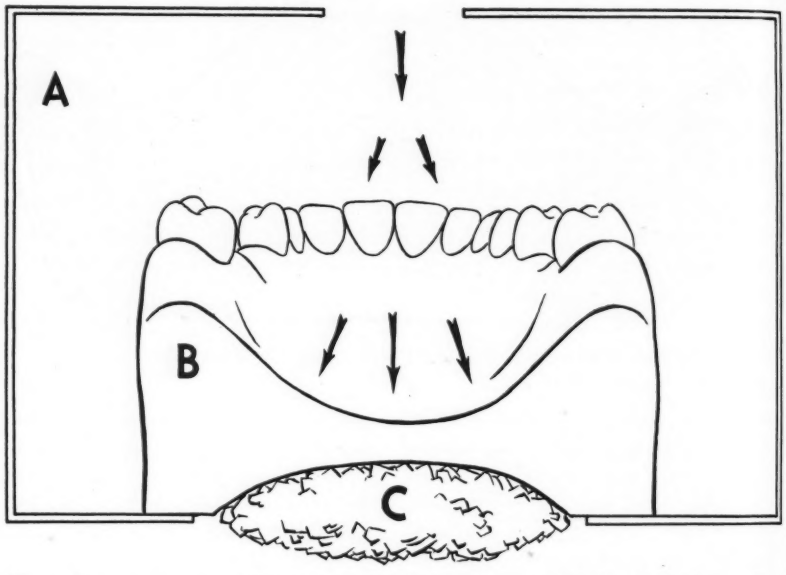


Fig. 8—Cross section view of flask shown in Fig. 7, showing action of hydrocolloid when cooling.

Duplication of Models — Hydrocolloid is also used extensively for duplication of models and is a valuable material for this purpose, as its behavior here may be nicely controlled and accurate models obtained. The most common error in model duplication is again the cooling of the colloid. Let us examine the model as it rests in place in the duplicating flask: Obviously the greatest bulk of colloid is in the palatal area of the upper, or lingual area of the lower. If the flask is air-cooled or plunged in cold water, this area will be liquid the longest and shrinkage will concentrate here. I find the following modification successful in overcoming this condition:

1. The bottom of the duplicating flask is cut out so as to expose the base of the model (Fig. 5).
2. The model base is cut out or recessed (Fig. 6).
3. The model is placed on the base of the flask and modeling clay used to fasten and seal it to the base.
4. The duplicating flask is assembled.
5. Cracked ice is then packed into the recess in the model base and left to stand until the model is thoroughly chilled.
6. The colloid is poured as usual (Fig. 7).

It will be necessary to keep the recess in the model base packed with ice as the cooling progresses and the ice melts. Because as the model is the coolest area, the colloid gels here first as an accurate impression is taken, and shrinkage occurs in the remaining liquid portion. The size of the shrinkage pipe at the top opening is evidence of the controlled behavior of the hydrocolloid.

652 *Stimson Building.*

The Editor's Page

THREE THOUSAND American lives were lost at Pearl Harbor. The fatalities would have been much larger if it had not been for the prompt application of two of the latest treatments in modern medicine, namely, the use of dried blood plasma and the free use of the sulfonamide drugs. The deaths in the infamous Japanese attack were from burns, hemorrhage, trauma, and shock. Death from any cause, as Grace[1] has pointed out, is "fundamentally the loss of blood volume. In hemorrhage, this volume is lost through the severed blood vessel, while in shock, the volume is just as markedly depleted by extravasation of blood volume from the vessels into the tissue spaces or by a pooling of blood in splanchnic vessels. It becomes obvious that irrespective of the immediate cause, physiologically, the most urgent problem is the prompt replacement into the vascular system of the patient of some ideal fluid." This ideal will vary according to the problem on hand: "Whole blood may be excellent in hemorrhage, but plasma more ideal in shock."

The future will likely see many statements regarding the use of dried blood plasma in war surgery. Dentists, therefore, are entitled to some background information on this subject. The idea of using whole blood in transfusion from one person to another goes back to 1750. It was not, however, until the turn of this century that the discovery of different blood groups made routine blood transfusions a safe procedure.

In 1918 the use of the serum or plasma portion of the blood, without the corpuscular elements, was first attempted. In cases of hemoconcentration where the fluid volume of the blood is lacking but the corpuscular element is concentrated, the infusion of the liquid element of blood, namely, plasma, is more important than the use of the whole blood.

The mechanism of shock, such as is found in war injuries, is explained by Bulmer[2] as follows: "Under the influence of any noxious agent the endothelium [of the blood vessels] loses its normal tonus and becomes abnormally permeable to blood plasma. Blood plasma escapes into tissue spaces, thus producing edema and oftentimes serous effusions. The corpuscles become closely packed in the dilated capillaries and venules, and circulatory stasis results. Correspondingly, there occurs an increase in the number of corpuscles per unit volume of blood." This condition is called "hemoconcentration."

In the treatment of battle casualties it is necessary that blood be available immediately and that no time be lost in securing donors or in determining blood types. The use of powdered blood serum is a perfect agent. In preparing blood for storage, whole blood is dried to a flaky residue by a distillation process. Under the method developed at the Mayo Clinic and described by Harper[3] and his associates, sterile dextrose is added to the dry blood plasma. Plasma solution sufficient for infusion can be prepared simply and promptly with the addition of sterile water. An arbitrary dose recommended is 40 Gm. of plasma residue and 8 Gm. of dextrose to be dissolved in 400 cc. of sterile distilled water. The Mayo clinicians have added as a preservative sodium sulfathiazole, which not only can control bacterial growth in the plasma but probably has a therapeutic value when administered.

Reports from Hawaii indicate that dental officers were of invaluable aid to medical officers in taking care of the wounded at Pearl Harbor. Dental officers, if they are well trained in first aid procedures, can save thousands of lives among those injured in battle. There is no reason that the dental officer should not be trained in the efficient use of blood plasma perfusion. When medical officers must be busy treating the more seriously wounded the delegation to dental officers of some of these first aid responsibilities should be highly desirable.

Despite the imminence of American troops in battles on virtually all the continents and the possibility of civilian devastation, there seems to be little interest among civilian dentists as a whole in preparing themselves as auxiliary medical officers. There is no dental society in the country so isolated that it should not organize at once classes in first aid and in the fundamentals of war surgery. Dentists should feel shamefaced if they are not aware of the principles underlying all the latest methods of treatment for war injuries.

[1]Grace, E. J.: Discussion of article cited in footnote 2.
[2]Bulmer, J. W.: Plasma and Its Clinical Use, Medical Times 70:3-8 (January) 1942.
[3]Harper, S. B.; Osterberg, A. E.; Priestley, J. T., and Seldon, T. H.: Changes in Serum Protein and Hemoconcentration in Man Following Transfusion of a Solution of Dried Blood Plasma, J. A. M. A. 116:1760-1762 (April 19) 1941.

Why your Red Cross now needs

FIFTY MILLION DOLLARS

Every dollar that you give now to your Red Cross marches into the thick of things where humanitarian help is needed most—up to the fronts and battle stations where the fighting is heaviest. And throughout our broad land to train and equip volunteers to meet any emergency that may strike.

How this War Fund is Used

SERVICE TO THE ARMED FORCES • • • • $25,000,000

Provides for the care of the Army and Navy, including services to men in hospitals and during convalescence. • Provides an important link between the service men and their families. • Provides essential medical and other supplies outside of standard Government equipment. • Operates Red Cross headquarters at camps and naval stations. • Enrolls blood donors and medical technologists for Army and Navy needs. • Provides millions of surgical dressings, sweaters, socks, etc. through volunteer workers.

DISASTER AND CIVILIAN EMERGENCY RELIEF • • • • • • • $10,000,000

Supplies emergency needs for food, clothing, shelter and medical attention for disaster victims. • Assists stricken families in repair of homes and other adjustments; provides minimum reserves of essential relief supplies to prevent unnecessary delays.

CIVILIAN DEFENSE SERVICES • • • • • • $ 5,000,000

Trains volunteers for home nursing and nurses' aides. • Trains nurses, men and women, for active duty with the Army and Navy. • Trains volunteers in First Aid and accident prevention, in Motor Corps, Canteen and Production. • Organizes for evacuation of children and their families from stricken areas. • Assists Red Cross Chapters in establishing effective coordination of emergency relief.

SERVICE AND ASSISTANCE THROUGH CHAPTERS • • • • • • • $ 4,000,000

Gives assistance and service to the 3,740 Red Cross Chapters with their 6,131 Branches responsible for local Red Cross activities.

OTHER ACTIVITIES AND CONTINGENCIES • • • $ 6,000,000

New activities made necessary by unexpected developments.

TOTAL • • • • • • • • • • • • $50,000,000

THE AMERICAN RED CROSS $50,000,000 WAR FUND

(This space has been contributed to the American Red Cross by the publishers.)

Note to Red Cross Canvassers: Use this material to better inform contributors how their donations are being expended.

Contra-Angles

Flip Columnists . . .

A Bridgeport, Connecticut paper carries the strained "humor" concerning a draftee who visited an Army dentist. It is the same old uninformed and unanalyzed story of the familiar attempt on the part of a columnist to be funny in describing the dental experience. What these flippants don't know is that there will be millions of young Americans needing dental services while in the Army camps, and anything that casts doubts on the quality of the service or the care and skill of the Army dentist is a form of undermining morale.

The excellent Army Dental Corps has been attempting to live down for twenty-five years some of the blood and thunder stories that originated during World War I. To hear some of the veterans talk, Army dentists used to be plumbers in thin disguise; they had no anesthetics available, and their restorative techniques were of the thumb-and-finger mark variety of amalgams. Present day smart alecky columnists would have you believe these outdated tales to hold true now. Here's an example of such a wise-lipped columnist at work:

" 'Keep your mouth wide open for one minute,' he (the dentist) ordered. 'Don't chew on the right side and don't eat anything until tonight. Come back tomorrow and I'll smooth off that filling.' He went to the door.

" 'Next!' he cried.

"I walked out of the room and down the corridor, my mouth wide open.

" 'Gosh!' said one of the soldiers waiting on the bench. 'They broke his jaw in there!'

" 'Next!' yelled the dentist.

"No one moved."

The Medical Department of the Army from the Surgeon General on and including General Fairbank and his offi-

Suggestions for the use of

The Ryan Examination and Treatment Record

•

OVER

125,000

CHARTS

NOW IN USE

BY DENTISTS

EVERYWHERE

•

TYPES OF PENCILS

Yellow	Mongol No. 867
Gray	Mongol No. 819
Red	Mongol No. 866
Blue	Mongol No. 865
Yellow	Castell No. 40
Gray	Castell No. 57

Mongol pencils are made by Eberhard Faber; Castell by A. W. Faber.

SUGGESTED SYMBOLS

Each dentist may develop his own system of symbols but the following specific markings have been found simple and adequate:

Soft Lead Pencil—(a) Porcelain fillings are indicated by a pencil outline.

(b) Porcelain jacket crowns and bridges are shown by cross-hatching with lead pencil across the corresponding tooth or teeth on the chart.

(c) Missing teeth are blocked out with a soft lead pencil.

(d) Abrasions are represented with a soft lead pencil.

Blue Pencil—(a) Cavities are indicated with blue pencil.

(b) Advisable restorations are demonstrated with blue pencil.

Red Pencil—(a) A red line is used to indicate the presence of a root canal filling.

(b) A red outline shows the presence and position of an impacted tooth.

(c) Red pencil is used to represent pulp involvement.

(d) A red "X" is made across a tooth to indicate that its extraction has been advised.

(e) Pyorrhea pockets are represented in red along the crest of the alveolar ridge (and a notation is made at the bottom of the chart if extensive gingivitis is present.)

1. The Ryan Examination and Treatment Record may be had in pads of fifty charts each. These pads fit conveniently in a standard 9½ by 11½ inch loose-leaf notebook which may be purchased at a five-and-ten cent or variety store.

2. Alphabetical dividers may be made by using a ten cent package of plain white paper of the same size as the charts with holes punched at the same distances, and a fifteen cent box of alphabetical index tabs. The holes are reinforced.

3. It is a good plan to keep a blank sheet of paper between the charts to prevent possible smearing of crayon or pencil markings; but this is not essential.

4. A fresh pad of charts may be kept ready for use in back of the notebook of active records.

5. The various types of restorations and their location in a particular mouth are shown with the use of polychrome pencils—gray, for amalgam; deep yellow, for gold. White pencil does not show up very well; consequently, porcelain may be indicated with soft lead pencil outlines or cross-hatching.

6. Spaces provided beside the quadrants with numbers corresponding to the teeth permit special notations concerning each tooth. As treatment progresses the blue markings indicating needed dentistry are erased, and the nature, location, and date of placement of each new restoration are recorded. Additional clinical notations are made if necessary in the space provided for that purpose below the chart itself.

7. It is essential to be consistent in any system of symbols or markings developed. To insure consistency, it is well to have a key page in the front of the notebook.

8. The exact record of conditions found in the average patient's mouth at the original examination can be completed in fifteen or twenty minutes, and the time it takes to keep a chart up to date is negligible.

9. When a chart is completed the necessary data (name, address, telephone, reference, estimate, and terms) are typewritten in the spaces provided at the top of the record. The date of the original examination is also recorded in order that the treatment dates (as shown in the quadrants at the sides of the chart) will be recognized as subsequent to the date of the original examination.

10. Provision is made on the back of the chart for bookkeeping records. This is merely for the convenience of dentists who wish to keep all records together, but may be ignored by dentists who have a satisfactory bookkeeping system which they need not discard or do not wish to discard. The Ryan Examination and Treatment Record may be employed as an additional or supplementary record to any established method of record-keeping dentists may have.

11. Although the Ryan Examination and Treatment Record was designed for the dentist's own convenience in his practice, the charts have been found to have a definite informative value in explaining conditions to patients. The charts are also particularly helpful in reporting dental conditions of patients to cooperating physicians.

THE DENTAL DIGEST, 1005 LIBERTY AVE., PITTSBURGH, PA.

Here is $1.00. Please send me a pad of 50 Ryan Examination and Treatment Record Charts.

Dr.....Address.....

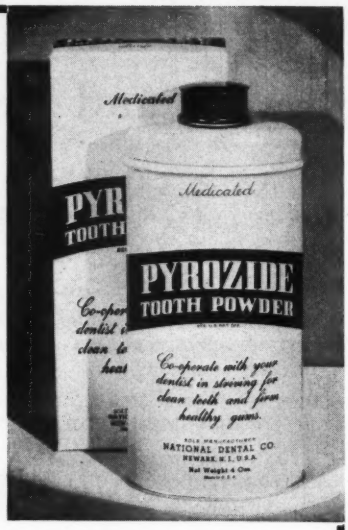
City.....State.....

(Or please use coupon on page 96)

If you have not ordered your charts, clip the coupon and mail with a dollar bill.

PYROZIDE TOOTH POWDER

DENTINOL


Medicated
PYROZIDE
TOOTH POWDER
Co-operate with your dentist in striving for clean teeth and firm healthy gums.
NATIONAL DENTAL CO.
NEWARK, N. J., U.S.A.

The inclusion of DENTINOL (liquid) in PYROZIDE TOOTH POWDER produces a fine, medicated dentifrice which has been prescribed throughout the world for almost 40 years and has created for itself many satisfied users and much good will.

PYROZIDE TOOTH POWDER is non-abrasive, removes mucoid deposits and the daily secretion of salivary calculus.

Recommend it for a daily dentifrice to your patients, child and adult alike.

Accept no substitutes for DENTINOL or PYROZIDE TOOTH POWDER.

WEB DISTRIBUTING CO.
259 South St. NEWARK, N. J.

Have you

RENEWED

your subscription for 1942?
If not, pin this ad to your card or letterhead and forward to

THE DENTAL DIGEST 1005 Liberty Ave. Pittsburgh, Pa.

cers have been striving mightily to acquaint the public with the kind of service the Army Dental Corps of 1942 gives the American soldier. The equipment is the best; the materials used are the finest; the professional standards and technical procedures are incomparable.

Among 3000 dental officers there are bound to be a few who do not have the proper esprit de corps and thus are a credit neither to the dental profession nor to the Army. But as one who has had the privilege of seeing Army dental installations in function, I can tell you to put it down that the Army Dental Corps is superlative.

Another columnist who should have known better but succumbed to the same type of "dental humor" is a chap who has had a fine reputation for being one of the most colorful American sports writers. I refer to Damon Runyon. He doesn't do himself credit when he tries to be funny writing about human afflictions. Human ailments are never funny. People who wear dentures are entitled to respect and consideration just as people who wear crutches are—not fun-making. Runyon, writing under the title, "Plate Men of U. S. Proudly Click Teeth As Army Beckons," offers this typical paragraph:

"We know a member of the Plate Men who was once awakened in the night by a cry of fire and grabbed what he thought was his balcony (upper denture) and clapped it in place and rushed forth only too late and discovered that he was wearing a glass ash tray. But maybe he'll tell you about the row his wife ricked up because she liked that particular tray."

Freedom of the press isn't involved in these episodes. Both these columnists have violated good taste and good judgment in undermining the confidence that the public has in dentists. Such tunneling hurts dentists, to be sure, but the harmful effect upon the public health is more serious. If people are frightened by us or stay away from us our incomes will suffer, but the people will suffer even more by jeopardizing their health.

Teeth and Emotions . . .

Have you ever been horrified by one

YOU'LL BE COCK-OF-THE-WALK WITH YOUR NEW CDX X-RAY UNIT!

and we won't blame you one whit, for the new CDX is *that* kind of a machine, the kind that makes you tingle with pride because you know you have the finest thing of its type, the one with which all others are compared.

It's the kind of an x-ray unit that makes patients "ring up" their friends to tell them how progressive you are with your beautiful, new General Electric unit and how for the first time they've really enjoyed an x-ray examination. It's the kind that makes radiography fun instead of a chore—it's so incredibly easy to handle. And the kind that stimulates your professional zeal and bolsters your reputation—it's so scientifically designed and soundly constructed to give you brilliant radiographs time after time.

So, if you are embarrassed by the old-fangled appearance of your present x-ray unit, harassed by its squeaks and its rattles, hampered by cranky operation and inferior results, and worried by fear of shock, we suggest you turn it in now for a new-as-tomorrow CDX. Then you'll be proud instead of ashamed of your x-ray facilities. Then you'll be cock-of-the-walk!

With the prospect of increased practices for the older dentists growing stronger daily, there has seldom been a better time to modernize, so why not write for complete details about the CDX *today?*

Please send me—without obligation—a copy of the CDX catalog and information about the CDX convenient payment plan.

Dr. .....

Address .....
(PLEASE PRINT)

.....

Dealer .....

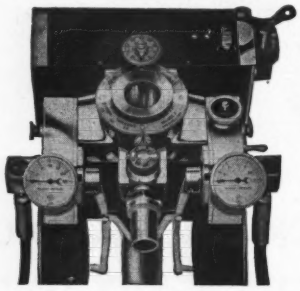
GENERAL ELECTRIC X-RAY CORPORATION

2012 JACKSON BLVD. CHICAGO, ILL., U. S. A.

P12

(*Or please use coupon on page* 96)

You can do it EASIER with the NARGRAF



Whether it is an extraction, an involved surgical case, or a routine procedure in general practice, with the Nargraf you can do it easier, quicker, and with greater comfort to your patient.

Breathes With The Patient—The Nargraf's intermittent flow principle automatically coordinates the flow of gas with the patient's respiration, relieving the operator of the necessity of adjusting the dosage with every change in the breathing rate, thus permitting the dentist to devote his entire attention to the patient and the operation. Once adjusted, the Nargraf actually breathes with the patient.

Instant Re-oxygenation—Oxygen is instantly available. Pressure on the oxygen-release button instantly releases a flow of pure oxygen to the patient.

Simplified Control—The flow of both nitrous oxide and oxygen are controlled by one valve, thus simplifying dosage control.

Instant Control of the Patient—The limited *dead space* between the patient's lungs and the mixing valve permits a change in dosage to reach the patient almost instantly, thus providing maximum control of the patient.

Efficient Analgesia—The Nargraf can be equipped with patient-control bulb for analgesia, thus providing efficient pain control for every procedure in general practice.

These are but a few of the Nargraf's advantages. Let us tell you what the Nargraf can do in the way of promoting ideal operating conditions, reducing operating fatigue, and paying its way in increased practice. Return the coupon on page 96.

McKesson Appliance Co.
Toledo, Ohio

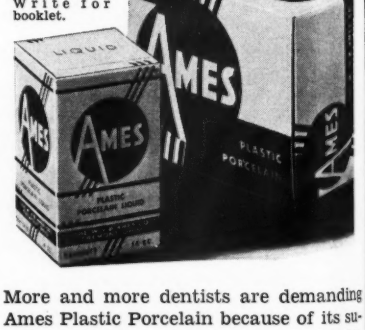
of the Sunday magazine supplement sensational features? You know the kind—where dinosaurs leer out from the printed page? Now one comes to hand that carries the scaring headline, "How Unhappy Love Gnaws Holes in Your Teeth." The five illustrations that accompany this story must be described: The top one is a real tear-jerker, with the bride before the altar presented with the shocking evidence of her groom's baby born to another woman outside the bonds of wedlock. The legend tells how this experience "condemned the unhappy young lady to bad teeth all the rest of her life." Another is of a "quaint old Currier & Ives Print" showing "Happy, Contented Love." It is a picture of a bovine couple doing a good job of pawing over each other. Presumably they lived a long life and never had a toothache. The third picture represents a bust of Cicero whose dictum is drawn in by the tail as evidence of the effect of emotion. The fourth picture is another Currier & Ives Print depicting a family quarrel as an example of a "Prolific Source of Tooth Decay." And the fifth illustration, which comes a little closer to the twentieth century, although the dentist appears to be extracting a perfectly good cuspid, concedes that "Diet as Well as Emotionalism Has a Lot to Do With Tooth Health."

Thus a hopped up feature writer again has taken some perfectly valid scientific observations and twisted them around into all sorts of weird shapes. Doctor E. F. Briggs has pointed out in scientific publications that there may be psychogenic factors in dental caries; that whatever interferes with the secretions in the mouth may be a factor in tooth decay. Furthermore in certain psychologic states associated with unbalanced emotions there may be pronounced changes in the neurocirculatory system with all sorts of untoward consequences. We know that the endocrine glands and nervous system and blood vessels in all tissues can be influenced by emotional states. Doctor Briggs certainly never intended that anyone should go so far as to say that frustrations in love, anger against your landlord, disappointment over the scholastic aptitudes of your children

The RED CROSS needs your dollars now!

Not For Economy Alone

Conforms to A.D.A. Specification No. 9 for silicate cements. ½ oz. powder $2.00. 14 cc liquid $1.00. Write for booklet.



More and more dentists are demanding Ames Plastic Porcelain because of its superior clinical qualities. The valuable economy in the use of this new filling porcelain constitutes a plus value. Single units are sold at "quantity prices"—you can buy what you need when you need it. Ask your dealer.

AMES The W. V-B. Ames Company Fremont, Ohio
DENTAL CEMENTS

could in themselves, cause spontaneous tooth decay; nor is it likely that he said anything about "How Unhappy Love Gnaws Holes in Your Teeth."

Rehabilitation . . .

The governor of a populous state, acting in undoubted good faith, announces that all the medical facilities of his state are available to rehabilitate draftees who have been rejected for remediable physical defects. I am speaking of Governor Dwight H. Green of Illinois. This is an example of distortion of State rights. The Federal Government, working through the Selective Service System, is ready to inaugurate on a national scale, a program for rehabilitation. There is no doubt that the facilities of the states will be important in the carrying out of the program.

The most annoying feature of Governor Green's offer is his failure to recognize the difference between correctable defects of a medical and surgical nature and those of a dental nature. It is quite necessary for the correction of hernias, for example, to have hospital facilities available, but the operating time is short. In the correction of dental defects hospital facilities are not essential but much more operating time is required. The surgeon's operating time may be an hour, followed by postoperative care usually by internes and nurses. It is safe to say that men who have been rejected because of failure to meet the dental standards will require at least ten or twelve hours of operating time by the dentist. There is no state in the Union that has enough public dental facilities in the clinics, dispensaries, and state institutions to begin to handle the dental load. That will mean that dentists in private practice, working under a contract system of some sort, will be required to rehabilitate the dental rejectees. For any governor to announce a plan contrary to this principle is a violation of facts and realities.

Another factor that should be pointed out is that the rehabilitation program, theoretically at least, is to be a temporary measure to meet an emergency need. If rehabilitation is undertaken by permanent state bureaus, such as de-

The Oral Surgeon faces a UNIQUE PROBLEM

He must carry out surgical procedures, the success of which depends not only upon his skill, but also upon the absence of infection in one of the most highly infected cavities of the body—the mouth.

In this he is aided by the defense mechanism and immunity of the patient's own tissues, but when these are traumatized, as occurs with even the most careful surgery, the tissue defense against infection is impaired. An antiseptic agent must be used, therefore, which not only kills bacteria, but which is not toxic to tissue and does not interfere with the natural defense mechanisms.

'S.T. 37' Antiseptic Solution is ideal for use in the oral cavity because of its high germicidal activity and the fact that its low surface tension facilitates its penetration into minute crevices and interstices. It is non-toxic and has been shown to possess the lowest tissue toxicity of all the commonly used organic antiseptics tested. It is germicidal in high dilution, is pleasant-tasting, odorless, colorless, and stainless.

'S.T. 37' Antiseptic Solution may be used as a spray either full strength or diluted with an equal part of water. For use as an irrigating solution it should be diluted with two or three parts of water. When used topically, it is applied full strength. As a wet dressing, a cotton pledget or gauze pad is saturated with the solution, full strength or diluted with one or two parts of water.

Because of its freedom from toxicity, 'S.T. 37' Antiseptic Solution is well suited for home use by the patient, and the dentist may safely recommend this germicide for use between office treatments.

'S.T. 37' Antiseptic Solution (formerly Hexylresorcinol 'Solution S.T. 37') is supplied in convenient five- and twelve-ounce bottles.

'S.T. 37' ANTISEPTIC SOLUTION

A modern weapon against oral sepsis

Sharp & Dohme

NONE BETTER AT ANY PRICE!

Lee Smith Certified Impression Compound requires less kneading to give you smoother texture for greater detail. That's why it is the favorite of discriminating dentists everywhere. Order Certified Impression Compound from your dealer TODAY . . . at the same regular price, fifty cents the half-pound box.

GUARANTEED TO SURPASS A.D.A. SPECIFICATIONS

LEE S. SMITH & SON MFG. CO.

7325 PENN AVENUE PITTSBURGH, PENNA.

MIRROR, MIRROR ON THE WALL,
WHO IS THE FAIREST OF THEM ALL . . .
Her pleased and happy smile is the answer to that question . . . since her Dentist replaced those unsightly teeth with beautifully, natural ACRALAIN Restorations.
ACRALAIN, the original plastic developed for Casting Jacket Crowns, Bridge Pontics, Veneer Facings and Inlays, handles easily. Use of the ACRALAIN shade guide simplifies shade matching. The full range of tooth and basic shades available makes it possible to match standard shade guides and to simulate natural tooth markings.
ACRALITE
REG. U.S. PAT. OFF.
is Dentists' first choice in Denture Acrylics. Supplied in translucent, natural tissue-tint, or clear, for palatal portions. Exceedingly strong, easy to repair or rebase, uniform in quality — DEPENDABLE!
ACRALITE CO., INC., 257 W. 38 ST., NEW YORK, N.Y.

partments of health, we may have every reason to fear the intrusion in later days of such permanent bureaus in widespread health programs. In short, if we want to run headlong, pell-mell into state medicine, let the state health departments handle rehabilitation. Let them get their hands on big sums of money for the job; let them build up patronage by appointing dental and medical personnel, and see if even after the war is over, you can ever pry this back from them to reestablish private practice.

Again: Standardized Dental Records . . .

Once again the value of proper dental records is proved in the identification of the body of Carole Lombard.

It is going to bring great chagrin to some dentists that we all know when families try to establish the identification of some loved one during war time civilian catastrophes and these dentists must confess that they have no dental records that they can present. There is no doubt that there is going to be an increasing need for identification of people destroyed by enemy acts of military violence.

I have been preaching the importance of standardized and conscientious use of dental records for years but without conspicuous success. Now THE DENTAL DIGEST offers to supply without charge to any dentist who requests them SIX SAMPLE VISUAL RECORD CHARTS along with directions for use. Dentists may write direct to the Editorial Office, THE DENTAL DIGEST, 708 Church Street, Evanston, Illinois.

Canadian Visit . . .

No barriers exist between the United States and Canada except the unnecessary and artificial ones created by customs authorities. It is positively silly and contrary to all "good neighbor" policies to be required to pay a duty on educational material taken into a country for free distribution.

Sandy MacGregor, president of the Academy of Dentistry of Toronto, and I cursed and fumed as we were required to rubber stamp "Printed in the U. S. A." on 500 copies of lecture notes taken into Canada.

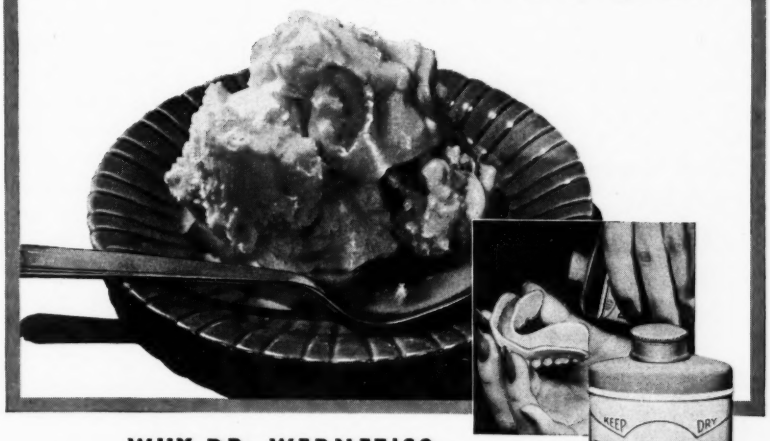
At the Hart House of the University of Toronto, students sat before great

PROVING THAT ALL DENTURE POWDERS ARE NOT ALIKE!

So white, So pure

YOU EAT IT IN ICE CREAM

The crude gum from which DR. WERNET'S Powder is made is the finest, purest and most expensive in the world . . . *the same grade used as a binder in the highest grade ice-creams!* No other powder can make this claim. Therefore when you recommend DR. WERNET'S you are recommending absolutely safe, digestible material. Each pound is scientifically selected, carefully milled and refined to eliminate all foreign matter.



WHY DR. WERNET'S?

Because *impartial laboratory tests* with competitive brands prove DR. WERNET'S is:

1. *26.1% Whiter!* Proven purity, less foreign matter, no gummy mass.
2. *50% more Viscous!* Less needed for better shock-absorbing.
3. *46.5% more Absorbent!* Means faster denture-control.

SEND FOR YOUR FREE SUPPLY! Mail your card or letterhead to Wernet Dental Manufacturing Co., Dept. K-7, 190 Baldwin Avenue, Jersey City, N. J.

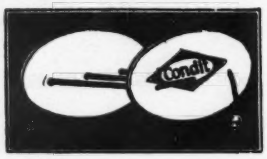
OVER 50,000 DENTISTS USE AND RECOMMEND

DR. WERNET'S POWDER

COMPLETES YOUR DENTURE SERVICE

CONDIT'S

Squash Bite and Impression Cups



ACCURATE

BITES and IMPRESSIONS

FOR

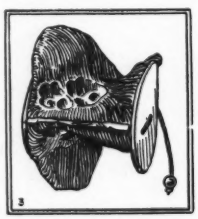
Acrylic Jacket Crowns and Inlays

THIS Squash Bite and Impression Cup gives just what you want:—accurate impressions of all surfaces of the tooth, and the bite, *all together*, in a single operation.

WHY NOT save time and impression material on every operation? And, more important, secure better impressions, better bites, and better finished work.

Condit Squash Bite and Impression Cups are made from special bristol board stock with sufficient strength and resistance to moisture. Cellophane is included for short bites. The cost is low:

75c per box of 24



$2.50 per box of 100

Bite and Impression

P. N. CONDIT • Box 204 • Back Bay • Massachusetts

fireplaces in fine leather chairs of the utmost comfort to do their studying and reading.

The excellent Faculty of Dentistry of the University of Toronto is presided over by Dean Arnold D. Mason who is perhaps better known in our country as the dentist of the Dionne Quints.

It has been a long time since the days of my organic chemistry and my mind is very splotched on formulas and such things, but anyone who spends an afternoon with Harold Keith Box, the eminent investigator, comes away with the feeling that the symbols of chemistry are vital, breathing things and are related to real life. Box's experimental work and an announcement he should soon make regarding dental caries may well be monumental. It is too bad that Harold Box can't be pried loose from his laboratory long enough to appear on dental society programs.

In these days of war is it interesting to compare the dental institutions of Canadian and United States armies. Col. Frank M. Lott, an outstanding dentist, heads the Canadian Dental Corps. One of his assistants, Lt. Col. E. M. Wansborough in command of the dental unit in an air force training school, showed me the dental installations. The trunks that carry the dental equipment are similar to those used in our forces, and the collapsible chairs are equally good. Unlike our organization, the Canadian Dental Corps is separate and apart from the Medical Department. In the Canadian organization one Dental Corps serves the Army, the Navy and the Air Force.

Under one roof we saw 5000 young men preparing for training in the Royal Canadian Air Forces.

At the Granite Club where I had dinner as a guest of the Mayo trained Toronto oral surgeon, George Morgan, curling is the sport. Curling has nothing to do with hairdressing. It is a game developed by the Scotch and is played on ice with four men on each side, each playing two curling stones. The stone has a handle and weighs approximately 40 pounds, although the weight may vary. The stones are hurled along the ice to a mark about 40 yards away. The object, of course, is to get as near the mark as possible.

Plan now. . . A regular patient education program for '42

Each year patient education plays a more important part in dental practices. Each year more effective and ethical material is available to you—material that tells a definite and convincing story to patients who are slowly but surely realizing the wisdom of regular dental care, and the dangers of neglect.

Your problem of educating the individual patient to a better understanding of the value of systematic dental care can be overcome to a great extent by the constant use of copies of YOUR TEETH AND YOUR LIFE. This booklet has had a tremendously enthusiastic reception by dentists throughout the country. It is being used extensively in patient education programs.

YOUR TEETH AND YOUR LIFE can be used in many ways in your program: (1) as a monthly statement enclosure; (2) for reception room use; (3) for dental societies and Parent-Teacher Association groups; (4) for patient distribution upon dismissal; (5) for enclosure with patient recall cards.

Order your copies today. 25 for $1.00; 100 for $3.00. A special quantity discount of 10% if 1000 copies purchased at one time. Use envelope form below. It is for your greater convenience.

TRIM OUT AND PASTE ON ONE OF YOUR ENVELOPES . . .

FIRST CLASS
PERMIT No. 1158
(SEC. 510, P. L. & R.)
PITTSBURGH, PA.

BUSINESS REPLY ENVELOPE
NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

POSTAGE WILL BE PAID BY

DENTAL DIGEST, INC.
1005 LIBERTY AVENUE
PITTSBURGH, PA.

NO POSTAGE REQUIRED . . . ORDER YOUR COPIES TODAY

THE DENTAL DIGEST
1005 Liberty Ave., Pittsburgh, Pa.

Here is $..... covering ..... copies of YOUR TEETH AND YOUR LIFE.

Doctor .....

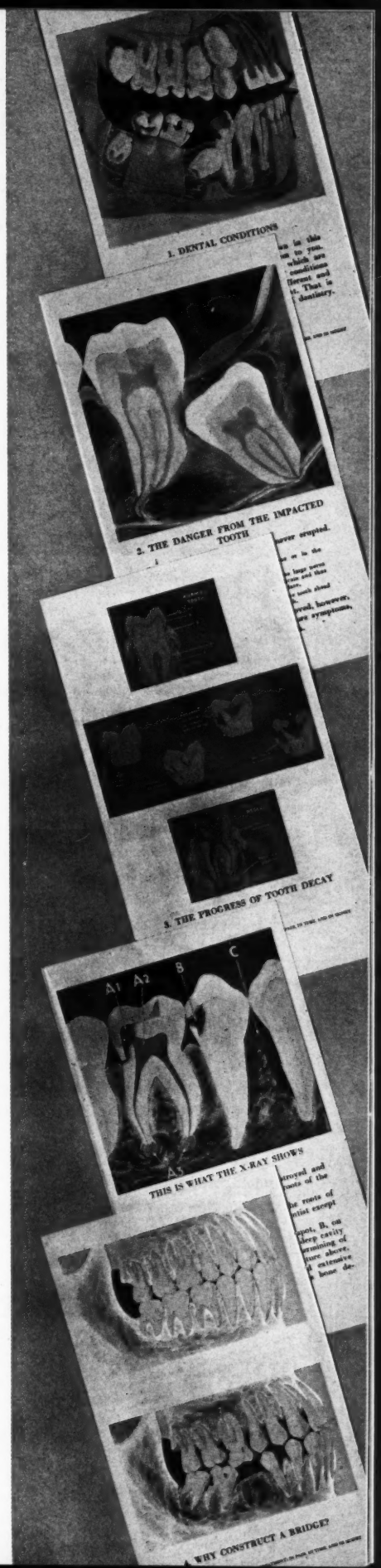
Address .....

City .....

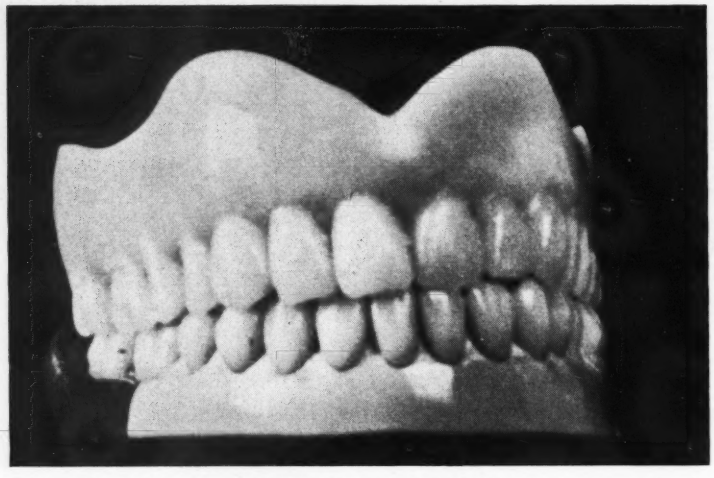
Dealer ..... D.D. 2

(Or please use coupon on page 97)

MAIL COUPON TODAY FOR YOUR SUPPLY


1. DENTAL CONDITIONS
2. THE DANGER FROM THE IMPACTED TOOTH
3. THE PROGRESS OF TOOTH DECAY
A1 A2 B C
A3
THIS IS WHAT THE X-RAY SHOWS
WHY CONSTRUCT A BRIDGE?

In your ORAL HYGIENE this month



These dentures were made by a dental laboratory advertising to the public directly. They did not fit or function. They show no individuality. They are, indeed, "plates."

DID YOU EVER SEE A MAIL-ORDER DENTURE?

Here's one, an illustration from "Your Practice Suffers . . . and So Do Your Patients," in February ORAL HYGIENE, which tells how "the denture racket continues to flourish, to the detriment of the dental profession and the public."

And, this month, a new department, "This is YOUR Business," conducted by Peter T. Swanish, Ph.D., well-known economist. Readers may seek his advice on their economic and business problems just as they have for years sought counsel from the Ask ORAL HYGIENE department.

Major Neil W. Macauley's "Dental Service in the Coast Artillery" gives an intimate close-up of life in the U. S. Army Dental Corps.

With March 15 in sight, you'll want to read and study and keep for reference "Income Tax Aid for Dentists," by Samuel Hacker, a certified public accountant. If his article helps you to reduce your income tax, he suggests that savings be invested in U. S. Defense Bonds.

In an up-to-the-minute article, "Manila was My Home," Jay Voorhies interviews Doctor Gabriel K. Jureidini, who for the last twenty-five years has dedicated his private practice to the advancement of oral health among the Filipinos. He was the National Philippine Dental Association's delegate to the Houston meeting.

This month's editorial, "What Can WE Do?," deals with dentistry's role in the current emergency.

And the departments, Military and Defense News, Dentists in the News, four pages of Ask ORAL HYGIENE, three pages of Technique of the Month, Laffodontia, and The Corner.

In your February

Oral Hygiene

The Academy of Dentistry of Toronto meets at Osler Hall. The great Osler was born and bred at Bond Head, Ontario, and spent his early medical life in Toronto. His fame came not so much because he wrote the outstanding textbook on medicine nor because he attended kings and senators, but doubtless because of his warm human traits. No one who practices dentistry or medicine could have a better tribute paid him than that which a patient of Osler's wrote of him:

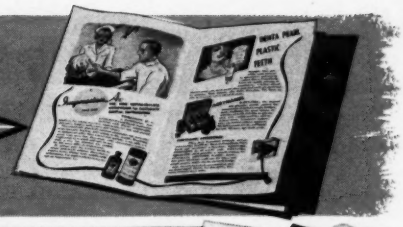
"Subtle in temperament, direct in character, the brilliant mind and soaring spirit were unchallenged, because, under the surface of the gay man of the world, lived the Saint. It is when a man touches other people's lives that you know whether he brings life or death or nothing. Where that swift spirit has gone I do not know; but I know that to those he cared for on earth, he brought life. They will look back and remember, and will thank God and take courage."

Not far distant from Osler Hall, not far distant from the building of the Faculty of Dentistry, stands another building on the campus of the University of Toronto. There among the clean, simple surroundings lives a man who wears a black cassock. His fame is known throughout the dental world as a teacher of prosthetic dentistry and a former dental dean. Now he is a priest in the Catholic Church. Father William E. Cummer is a man who like Osler has "warmed both hands before the fire of life" and it was in his company that I spent one of life's pleasantest hours. When I left him to walk out into the crisp air of the campus where Osler walked and where the shadow of Banting also was cast, I was reminded of Cowper's observation, the second part of which is exemplified so well by these men:

"Knowledge is proud that he has
learned so much;
"Wisdom is humble that he knows no
more."

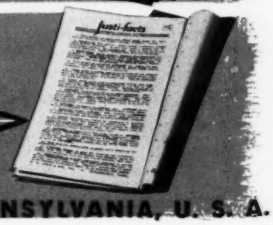
—E.J.R.

for timely news and descriptive details of
DENTA PEARL TEETH, IMPRESSIONAC
ACRYNAMEL & ACRYNAMEL INVESTMENT



SEE JUSTI advertising in: ORAL HYGIENE (February issue)
JOURNAL A. D. A. (March issue)
PROOFS (February & March issues)

for useful technical information and
Justi-facts



SEE JUSTI'S new technic sheet in DENTAL SURVEY (February & March issues)
and in DENTAL LABORATORY REVIEW (February & March issues)

H. D. JUSTI & SON, INC. • *Established 1864* • PHILADELPHIA, PENNSYLVANIA, U. S. A.

DENTAL MEETING *Dates*

Chicago Dental Society, Midwinter Meeting, Palmer House, Chicago, February 23-26.

Minnesota State Dental Association Meeting, Municipal Auditorium, St. Paul, March 3-5.

•

Five State Post Graduate Clinic, Mayflower Hotel, Washington, D. C., March 8-12.

•

Cincinnati Dental Society, annual all-day clinic meeting, Netherland Plaza Hotel, March 18.

•

Women's Dental Society of New York, Spring Meeting, Hotel Pennsylvania, New York City, March 18.

•

The Thomas P. Hinman Midwinter Clinic, Biltmore Hotel, Atlanta, March 23-24.

•

American Society for the Advancement of General Anesthesia in Dentistry, Spring Meeting, Midston House, New York City, March 23.

•

Old Dominion Dental Society, twenty-ninth annual meeting, Danville, Virginia, April 6-7.

•

Cleveland Dental Society, annual Spring Clinic, Statler Hotel, Cleveland, May 4-6.

•

Tennessee State Dental Association, seventy-fifth annual meeting, Hotel Patten, Chattanooga, May 11-14.

•

Indiana State Dental Association, eighty-fifth annual meeting, Claypool Hotel, Indianapolis, May 18-20.

•

Ontario Dental Association, seventy-fifth annual meeting, Royal York Hotel, Toronto, May 18-21.

Utah State Dental Association, fifty-second annual meeting, Newhouse Hotel, Salt Lake City, June 4-6.

•

New Jersey State Board of Dental Examiners, regular meeting, commencing June 29 and continuing for five days thereafter. For information write to Doctor W. A. Wilson, 150 East State Street, Trenton.

They're more convenient for you because they have no long, clumsy mandrel. They're shorter and fit closer to the hand-piece. They're more comfortable for the patient because they clean those deep down pits and fissures thoroughly yet gently . . . and clean between the teeth and under the free gum margin without injuring the delicate gum tissue. They run cool and smooth, and do not throw or splatter abrasive. Order some soft, flexible rubber BS POLISHERS today.

Young DENTAL MFG. CO ST. LOUIS, MO
ESTABLISHED OVER 40 YEARS AGO

Alpha-Perles **Containing Chlorophyllin compound, biologically standardized Vitamin D concentrate, together with a proper balance of Calcium, Phosphorous and Colloidol Iron. ALPHA PERLES is beneficial and many times corrective when prescribed as a supplementary diet.**

Alpha Perles are indicated for pregnant and lactating mothers to meet the demands for an abundant supply of calcium, phosphorous and iron; provides essential elements necessary to the building and proper maintenance of healthy tooth structure.

Simple to take, readily assimilable, Alpha Perles—the *medicinal food*, overcomes dietary deficiencies. Write today for complete literature and clinical evidence.

HARRY J. BOSWORTH COMPANY
1315 S. MICHIGAN AVENUE · CHICAGO

See page 55 D.D.2
KONFORMAX LABORATORIES, INC.
BROOKLYN, N. Y.

Please send descriptive folder.

Dr. .....
Address .....
City .....

See page 56 D.D.2
AUSTENAL LABORATORIES, INC.
5932 WENTWORTH AVE., CHICAGO, ILL.

Please send name of nearest Vitallium laboratory.

Dr. .....
Address .....
City .....

See page 63 D.D.2
ANTIDOLOR MFG. CO., INC.
COOK LABORATORIES, INC.
170 VARICK ST., NEW YORK CITY

Please send information concerning Novocain-Pontocaine-Cobefrin.

Dr. .....
Address .....
City .....

See page 85 D.D.2
THE DENTAL DIGEST
1005 LIBERTY AVE., PITTSBURGH, PA.

Here is $1.00 for a pad of 50 Ryan Examination and Treatment Record Charts.

Dr. .....
Address .....
City .....

See page 87 D.D.2
GENERAL ELECTRIC X-RAY CORP.
2012 JACKSON BLVD., CHICAGO, ILL.

Please send me, without obligation, a copy of the CDX catalog and information about the convenient payment plan.

Dr. .....
Address .....
Dealer .....

See page 88 D.D.2
McKESSON APPLIANCE CO.
TOLEDO, OHIO

Please send information concerning the Nargraf.

Dr. .....
Address .....
Dealer .....

See page 88 D.D.2
THE W. V-B. AMES CO.
FREMONT, OHIO

Please send booklet mentioned in ad.

Dr. .....
Address .....
City .....

See page 91 D.D.2
WERNET DENTAL MFG. CO., DEPT. K-7
190 BALDWIN AVE., JERSEY CITY, N. J.

Please send free supply of Wernet's Powder.

Dr. .....
Address .....
City .....

See page 93 D.D.2
THE DENTAL DIGEST
1005 LIBERTY AVE., PITTSBURGH, PA.

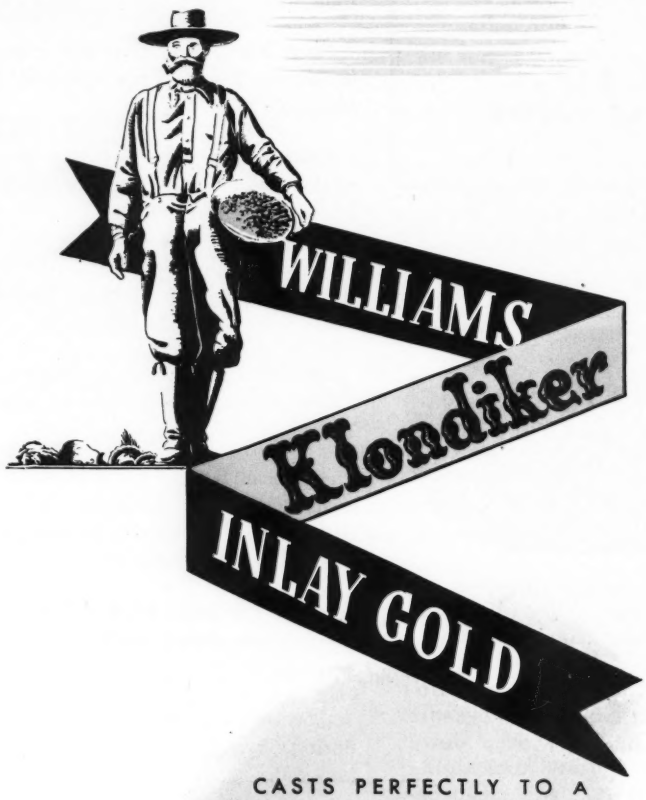
Here is $..... covering ..... copies of Your Teeth and Your Life.

Dr. .....
Address .....
City .....

See page 95 D.D.2
HARRY J. BOSWORTH CO.
1315 S. MICHIGAN AVE., CHICAGO, ILL.

Please send literature and clinical evidence about Alpha-Perles.

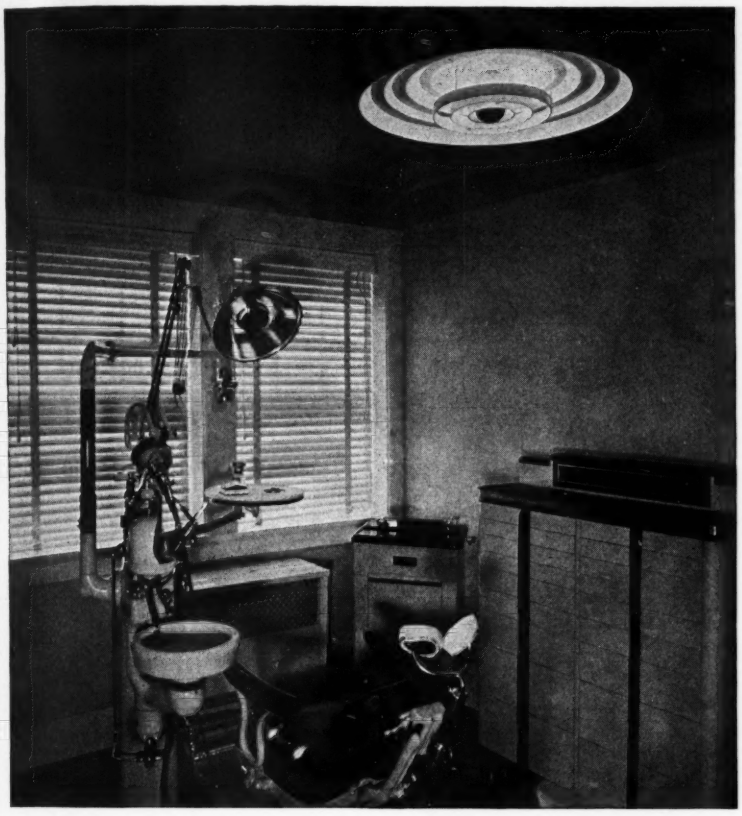
Dr. .....
Address .....
City .....



CASTS PERFECTLY TO A
SHARP-MARGINED INLAY
ENDURING...INCONSPICUOUS

At your dealers...or write
WILLIAMS GOLD REFINING COMPANY
Buffalo, New York Fort Erie, N., Ont.

CASTLE MATCHED ILLUMINATION



Light WHEREVER your eyes want it

Castle Matched Illumination means easy SEEING wherever seeing is important in your office . . . no "blind" spots where vision fumbles.

The Castle "G-V" for ideal over-all indirect illumination—the Castle "T-V" for penetrating, glareless color-corrected intra-oral work—both provide multi-beam shadow-free illumination to make your work easier.

WILMOT CASTLE COMPANY
1123 UNIVERSITY AVE. ROCHESTER, N. Y.

CASTLE LIGHTS

See page 96 D.D.2

WILLIAMS GOLD REFINING CO.
BUFFALO, N. Y.

Please send information concerning Williams Klondiker Inlay Gold.

Dr. .....
Address .....
City .....

See page 97 D.D.2

WILMOT CASTLE CO.
1123 UNIVERSITY AVE., ROCHESTER, N. Y.

Please send information concerning the Castle "G-V" Light. Also the "T-V" Light.

Dr. .....
Address .....
Dealer .....

See page 98 D.D.2

COREGA CHEMICAL CO.
308 ST. CLAIR AVE., N.W., CLEVELAND, OHIO

Please send samples for patients.

Dr. .....
Address .....
City .....

See page 98 D.D.2

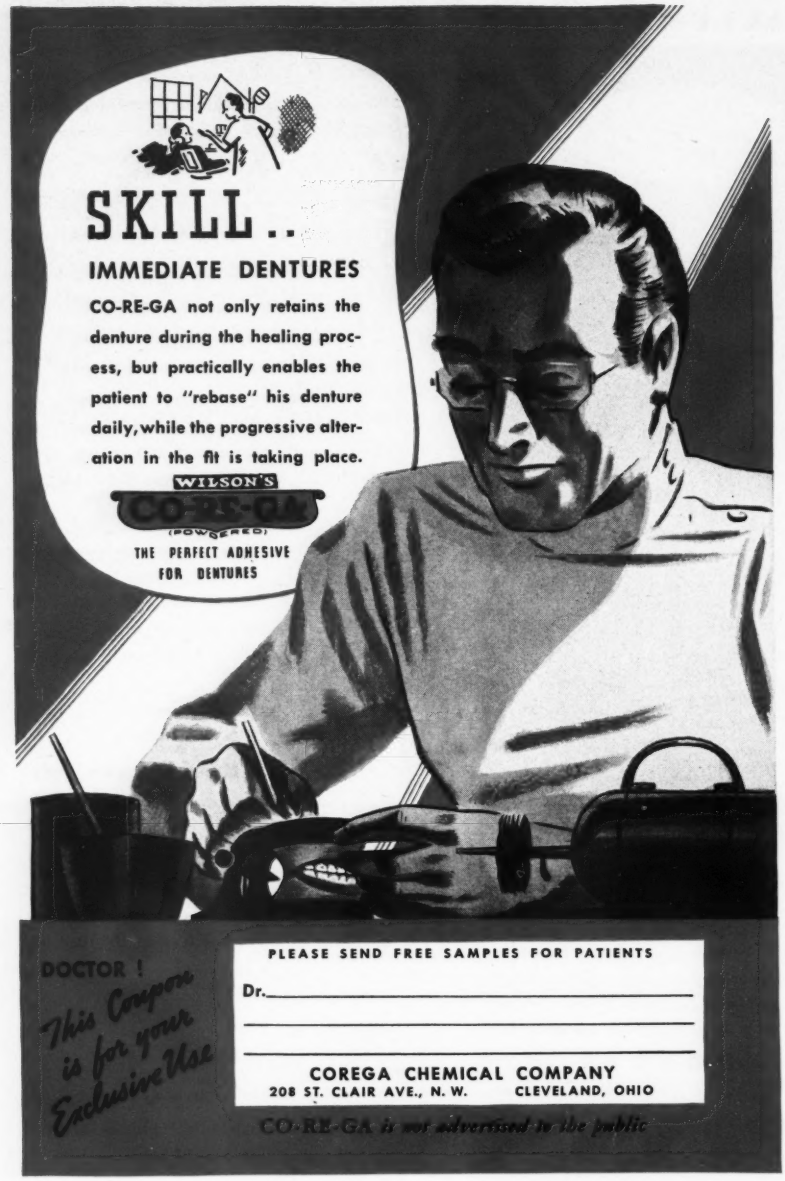
THE DENTAL DIGEST
1005 LIBERTY AVE., PITTSBURGH, PA.

Here is $..... covering a binder for the .....volume of The Dental Digest.

Dr. .....
Address .....
City .....

USE LAVORIS **When Epidemics Threaten**

Give the mouth and throat extra care


SKILL..
IMMEDIATE DENTURES
CO-RE-GA not only retains the denture during the healing process, but practically enables the patient to "rebase" his denture daily, while the progressive alteration in the fit is taking place.
WILSON'S
CO-RE-GA
(POWDERED)
THE PERFECT ADHESIVE FOR DENTURES
DOCTOR !
This Coupon is for your Exclusive Use
PLEASE SEND FREE SAMPLES FOR PATIENTS
Dr.
COREGA CHEMICAL COMPANY
208 ST. CLAIR AVE., N. W. CLEVELAND, OHIO
CO-RE-GA is not advertised to the public

DENTAL DIGEST BINDERS

$1.75 each

Decide *now* to put your copies of the 1941 volume in a permanent binder making the copies available for reference later.

The price per binder is only $1.75. It is beautifully bound in *blue* imitation leather, embossed in gold. The coupon is for your convenience.

THE DENTAL DIGEST
1005 Liberty Ave., Pittsburgh, Pa.
Here is $———covering a binder for the———volume of The Dental Digest.
Dr.....
Address.....
Dealer.....

PUBLICATION OFFICE:
1005 LIBERTY AVE.
PITTSBURGH, PENNSYLVANIA

MERWIN B. MASSOL .....*Publisher*
ROBERT C. KETTERER ...*Publication Manager*
W. EARLE CRAIG, D.D.S. .....*Associate*
STUART M. STANLEY .....*Eastern Manager*
JOHN J. DOWNES .....*Western Manager*
A. D. MCKINNEY .....*Southern Manager*
DON HARWAY .....*Pacific Coast Manager*
MARY CONNALLY .....*Assistant to Publisher*
DOROTHY STERLING .....*Promotion Manager*
ELIZABETH BOYLE .....*Circulation Manager*

•

EDITORIAL OFFICE: 708 CHURCH ST.
EVANSTON, ILLINOIS

EDWARD J. RYAN, B.S., D.D.S.....*Editor*
ETHEL H. DAVIS, A.B. .....*Assistant Editor*

•

Manuscripts and editorial correspondence should be addressed to the Editorial Office.

•

SUBSCRIPTIONS—In the United States, Alaska, Canada, Cuba, Guam, Hawaiian Islands, Mexico, Philippines, Puerto Rico, Central and South America: One year, $2; two years, $3; three years, $5. Three-year subscription includes *Visual Education in Dentistry*. (See below.) All other countries: One year, $2.75; two years, $4.50; three years, $7.25. Subscriptions are payable in advance.

•

ADDRESS CHANGES—Please allow two weeks for address change to become effective. Please furnish old as well as new address.

•

PUBLICATION DATE—The magazine is mailed on the fifteenth of the month of issue.

•

REMITTANCES for subscriptions or for extension services, which are named below, should be made payable to *Dental Digest, Inc.*

•

EXTENSION SERVICES—*Visual Education in Dentistry*, printed in full color, in DENTAL DIGEST page size. Includes 30 charts from the series, *Visual Education in Dentistry*. Prices: $1 per copy to DENTAL DIGEST subscribers; $2 per copy to non-subscribers; $1 per copy with new subscriptions at the rates named above. *Ryan Examination and Treatment Records*, carrying an anatomically accurate chart with space for examination data, lithographed on durable paper of proper texture for crayon, pencil or ink. Price $1 per pad of 50, punched for standard loose-leaf binder. *Toothbrushing Routine* (which appeared in November, 1937) and *The Castle That Was Destroyed* (published in May, 1939). Prices: 100, $6.50; 200, $10.00; 300, $13.00; additional 100's $3.00. *Your Teeth and Your Life* booklet. Prices: 25, $1.00; 100, $3.00. Orders, accompanied by remittances, should be mailed to Pittsburgh.

•

DISTRICT ADVERTISING OFFICES—*New York*, 18 East 48th Street; *Chicago*, Peoples Gas Building; *St. Louis*, Syndicate Trust Building; *San Francisco*, 420 Market Street. (*For advertising information only.*)

•

Copyright, 1942, by Dental Digest, Inc. Entered as second class matter at the postoffice at Pittsburgh, Pennsylvania, under the Act of Congress, March 3, 1870. *Printed in U.S.A.*